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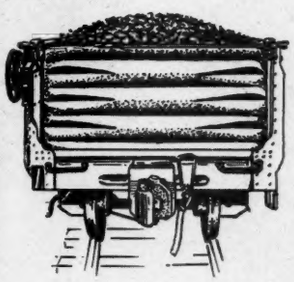

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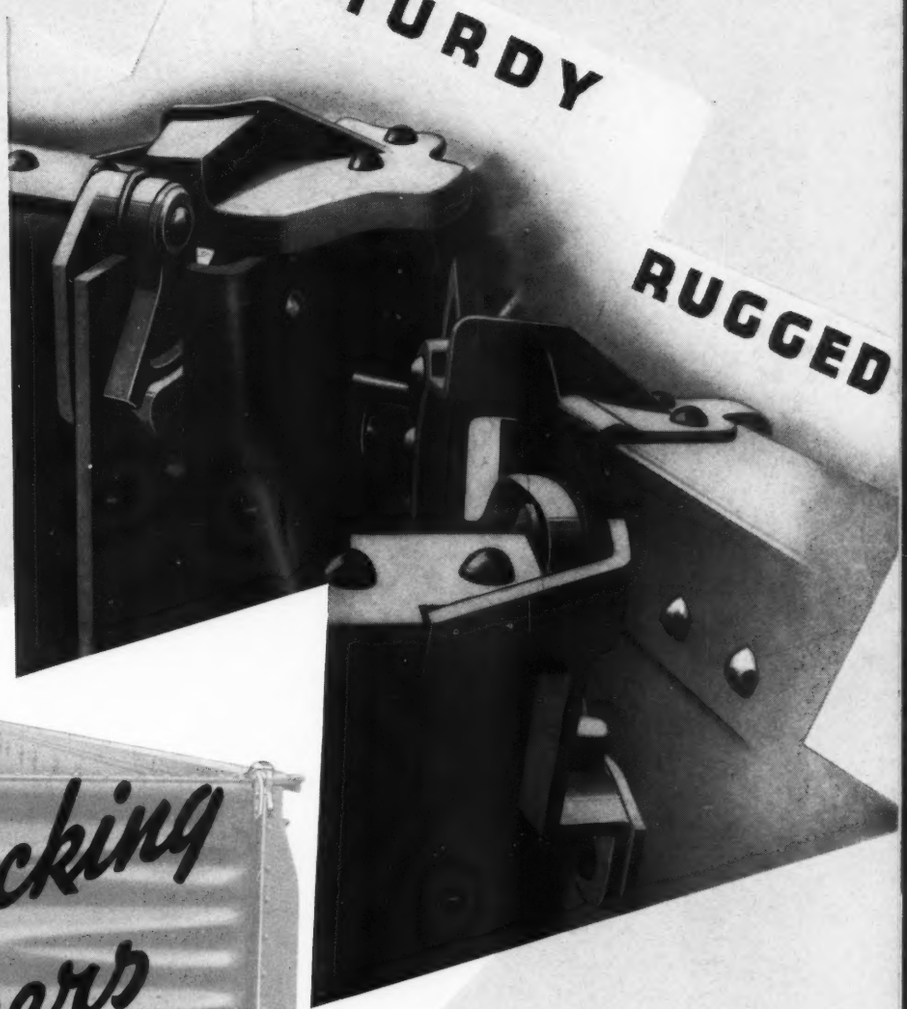

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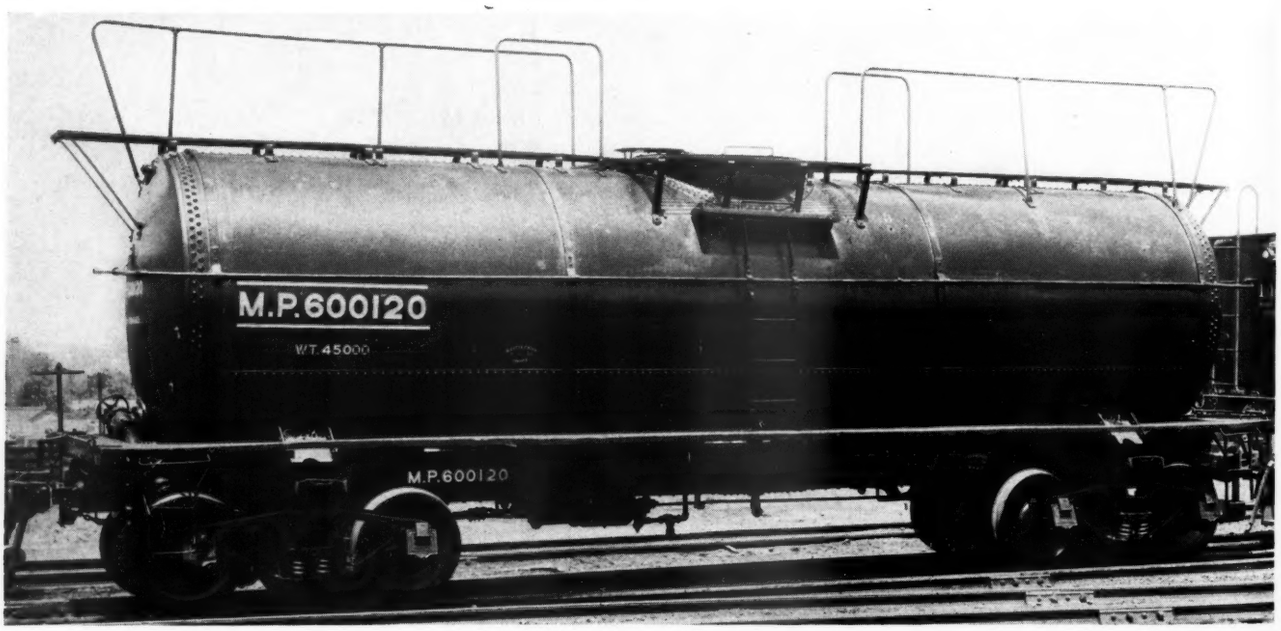

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The Norfolk & Western Is Ready . . . . . Page 941

This article tells of the plan followed by this road to improve its physical plant and rolling stock in the interests of operating efficiency—with the result that prompt movement of coal and other defense traffic is now assured.

Engineering Research Sponsored by A. A. R. Covers Broad Field 946

An abstract of an article from A. R. E. A. Bulletin 426, prepared by W. S. Lacher, secretary of the association, in which the wide variety of investigations carried on by the special staffs of the association are discussed.

Self-Propelled Trains for the D. & R. G. W. 952

The "Prospectors," built for this road by the Edward G. Budd Manufacturing Company for use in overnight service between Denver, Colo., and Salt Lake City, Utah, are the subject of this article.

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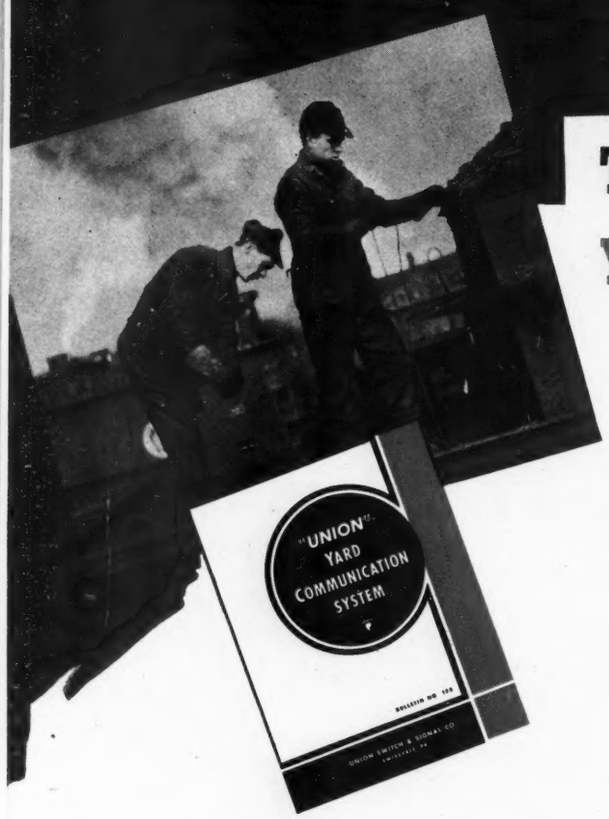

The Advantages of the "UNION" YARD COMMUNICATION SYSTEM

. . . are too numerous to be mentioned in this advertisement, but they are presented in detail in a new Bulletin just off the press. It describes and illustrates the various apparatus units and explains how yard operating efficiency may be maintained and improved by use of the system.

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RAILWAY AGE

Labor Unions' "Principles" Versus Their Policies

William Green, president of the American Federation of Labor, delivered an address before the Investment Bankers Association on November 30 in which he declared that preservation of free private enterprise in the United States is the common objective of capital and labor. We quote the following from his address, as reported in the press: "Labor understands fully that it will suffer most if ever the foundation and superstructure of free government is destroyed or impaired. . . . It stands firm in its determination to protect and preserve free enterprise and the private ownership of property at any cost. . . . The same blow which destroyed free enterprise also destroyed democratically controlled unions . . . in Russia, Germany and Italy. . . . Labor has always maintained that the owners and management of property are entitled to fair, just, and equitable return on their investments."

A Platform for Business-Labor Co-operation

Mr. Green's address apparently provides a platform upon which business and organized labor can stand together. But did he mean what he said? Did he correctly state the principles of all, or even most, leaders of organized labor in this country? Actions mean more than words. Do the present actual policies and objectives of labor leaders conform with the principles Mr. Green stated? If not, when do labor leaders intend to begin making their policies and objectives conform with these principles?

What the leaders of many labor unions, including the leaders of the railway labor unions, recently have been saying and doing can hardly be regarded by any real believer in and defender of free private enterprise as conforming with the principles Mr. Green stated; and all the railway labor unions excepting the transportation brotherhoods are affiliates of Mr. Green's American Federation of Labor.

The issue of a return on investment sufficient to enable the railroad industry to function satisfactorily as a private enterprise, even during the defense effort, has been squarely presented throughout the recent railway wage controversy; and the railway union leaders certainly have shown no disposition to let investors in railways enjoy a "fair, just and equitable return." The unions first demanded wage advances which would have virtually wiped out railway net operating income at the rate at which it was being derived in 1941 from a **maximum** freight traffic—would, in fact, have caused the industry to incur a huge deficit after fixed charges. In reply to the demonstration of this before the President's emergency board, George M. Harrison, one of the principal labor leaders, said to the board, "Let them go through the wringer." After the President's board recommended wage advances which would have increased railway costs 265 million dollars a year and would have reduced net operating income from an annual rate of about 4 per cent to an annual rate of about 3¼ per cent, the labor leaders rejected the recommendations and threatened to call a nationwide railway strike unless given larger advances. Also, A. F. Whitney, president of the Brotherhood of Railroad Trainmen, announced that if larger advances were not made he would advocate government ownership.

Restoring the Depression

The process prescribed by the Railway Labor Act, which the labor unions principally got passed, was finished when the board made its report. Nevertheless, the President called it together to conduct further hearings and mediation. During these the labor leaders proposed as a settlement an advance of $1 a day for all employees, and longer vacations with pay than the board had recommended. In October the Class I railways (exclusive of switching and terminal companies) had 1,217,750 employees. With traffic increasing, there is no reason for believing the number will average less than this in 1942; and $1 a day for this number, plus federal taxes on the increase in payroll, plus the cost of vacations with pay demanded, would have made the total increase in railway costs about 500 million dollars annually. At the rate at which net operating income was being earned in 1941 this would have reduced

it to an annual rate of about 660 million, or about 2½ per cent on investment. Average annual net operating income in the ten years ending with 1930 was just about 1 billion dollars. In the ten years ending with 1940 it was 519 million; in the five years ending with 1940 it was 580 million; in 1939 it was 598 million; and in 1940 was 682 million. Thus, on the basis of results thus far in 1941, granting of the "compromise" demands of the labor leaders would have reduced the railways' net operating income to about 340 million less than it averaged in the decade ending with 1930, and to about 20 million less than it was in 1940.

The settlement finally made this week will, on the basis of results thus far in 1941, increase the payroll and federal taxes on it at an annual rate of 343 million dollars and reduce net operating income to an annual rate of about 770 million, or less than 3 per cent on investment. In brief, with the railways handling a **maximum** freight traffic—the largest in their entire history—from which they should reasonably expect to derive **maximum** net earnings, the labor leaders have succeeded in forcing upon them increases in costs that will reduce their net return virtually to a depression basis. And the advances in wages recommended by the President's board were to be a temporary addition to basic pay for only sixteen months, whereas the advances finally forced upon the railways are to be a permanent addition to basic wages. It may well be asked, with the railways having had forced upon them costs which, in a year of record-breaking traffic such as 1941, would restrict their return on investment to less than 3 per cent, how much less than this they may reasonably be expected to earn if they enter another period of depression without these costs being deflated.

Public Sentiment Was Not Mobilized

There are certain important facts regarding what has occurred that cannot be too strongly emphasized. One is that the Railway Labor Act, which the unions principally got passed, completely broke down. The Railway Labor Act was based upon the assumption that after its process has been completed by the hearings and recommendations of a President's emergency board the parties to the dispute would be forced by public opinion to accept the board's recommendations. But there was no manifestation of public sentiment strong enough; in fact, the public showed little concern

The New York Times Assays the Wage Settlement

"The threatened nation-wide railroad strike, which would have crippled our entire defense effort, not to speak of ordinary economic life, has been averted. For this the nation may be duly grateful. But the strike has been bought off at a price, and nothing is gained by underestimating how heavy that price has been.

"The settlement is estimated to cost the railroads $300,000,000 to $325,000,000 additional a year. The Emergency Fact-Finding Board's first recommendations would have cost, the board believed, about $270,000,000 more a year. More important, the new wage increases are to be a permanent addition to the basic rate, and not set to expire at the end of 1942, as in the original board recommendations.

"The time is long past when such burdens can be thought of as falling on railway security holders alone, even though we remember that among these are savings banks, insurance companies and similar institutions the solvency of which is vital to the national economy. High railroad wages have necessitated high freight rates, which increase the cost of nearly every item entering into the cost of living. High freight and passenger rates, moreover, have placed the railroads at a competitive disadvantage with other forms of transportation. And now the roads plan to ask the Interstate Commerce Commission for still higher rates to help meet their increased payrolls.

"Of even more immediate seriousness, however, are the political implications of the railroad settlement. Railway labor has shown that the elaborate conciliation machinery set up under the Railway Labor Act is of little use except to make decisions in the unions' favor. The unions have shown that they will not hesitate to reject proposed Presidential board awards that they do not wholly like. They will call a strike to win something better. Technically, it is true, the board's face has been saved. The President did not take the question out of the hands of the board: he referred it to them again. By a neat trick of last-minute legerdemain, the board did not technically even have to change its first decision, for it became the second time no longer a 'fact-finding' but a 'mediation' board.

"But these technicalities cannot conceal the realities. In effect, the President told the board that it had brought in the wrong answer and must try again. Ostensibly the board was asked to change its decision because of 'new evidence,' but every one knew that in reality the most important item in that new evidence was that the unions had rejected the first award of the board and had threatened to strike. The strike was averted by the governmental agencies compromising with unions as they would never have dreamt of compromising with management. Government boards have once more been put on notice that if they want to keep the appearance of prestige, they had better bring in the first time a decision that the union leaders are going to like.

"One final point: This whole incident has proved once again that not only as against employers but as against governmental recommendations it is not a disadvantage for a union to threaten to strike, but an advantage. The railway unions were not penalized for threatening to hold up the national defense; they profited by that threat. Yet there are still people who are puzzled and surprised that many unions in this hour of emergency still insist on strikes and threats of strikes."

From the New York Times of December 3.

about the outcome. Consequently, no settlement under the Railway Labor Act was secured. President Roosevelt's action in recalling the board and having it secure a settlement more costly to the railways directly and to the public indirectly, than it had recommended, was entirely extra-legal.

Union Members Had No Vote

Another fact of great importance is that the members of the unions never were given opportunity to vote upon the question whether they would rather strike than accept the board's recommendations. After direct negotiation between the parties under the Railway Labor Act failed, the labor leaders got a vote of their members authorizing a strike; and they used this strike vote throughout the subsequent mediation by the government's mediation board, throughout the hearings by the President's emergency board, and subsequently to the emergency board's report, as a means of coercion by which they finally forced an increase in annual railway costs almost 80 million dollars larger than would have been caused by compliance with the board's recommendations. Those in Washington who are considering legislation to reduce strikes in defense industries may well carefully study this experience. It demonstrates the futility of any legislation intended to employ the force of public opinion to prevent threats of strikes, or actual strikes, if such legislation does not forbid strike votes from being taken until after all peaceful means of securing settlements have been exhausted.

Union Words vs. Union Action

And what light does the way in which the railway labor leaders handled their part of the recent railway wage controversy throw on Mr. Green's claim that labor "stands firm in its determination to protect and preserve free enterprise and the private ownership of property at any cost?" Mr. Harrison said, "Let them go through the wringer." What he meant was that wages in the railway industry—and presumably in every other industry—should be fixed regardless of how many investors in securities would have the value of their property—i. e., bonds as well as stocks—thereby destroyed. Does that support Mr. Green's declaration that "labor . . . stands firm in its determination to protect and preserve . . . the private ownership of property at any cost?" And did A. F. Whitney's declaration that if larger wage advances than those recommended by the President's board were not made he would advocate government ownership support Mr. Green's declaration that "labor . . . stands firm in its determination to protect and preserve free enterprise and . . . private ownership?"

The railway labor unions, by the use of a strike vote taken before a board appointed by the President of the United States had made its recommendations, have forced upon the railways increases in costs 80 million dollars a year larger than the board held would be reasonable, and have thereby reduced to less than 3 per cent the return being earned on investment in a period when the railways are handling the largest freight traffic in their history. Will any reputable economist, even though employed by the labor unions, publicly contend that a return averaging less than 2 per cent under depression conditions, such as the railways actually earned in the decade ending with 1940, and of less than 3 per cent in a period of maximum business, such as the railways are handling now, is sufficient to maintain private enterprise in any industry? If so, he must disregard all the experience of the railways and other industries in this country.

The real policies and actions of labor leaders, including many or most of those in Mr. Green's federation, diverge very widely, indeed, from the beliefs and principles he avowed for himself and them. Their real policies and actions indicate much more strongly that they are engaged in a movement to destroy private enterprise and private property.

Railroad Research Makes Wide Advances

For many years the railways were open to criticism, and not infrequently were criticized, for inadequate scientific investigation and research regarding their many specific physical problems. It was pointed out that while many other large industries forged ahead through the aid of technological improvements based on intensive laboratory studies and analyses, the railways were not research minded and were content to enjoy the fruits of much research conducted by others.

This seeming apathy can be attributed more accurately to many other factors, including years of rapid expansion and intensive operations that absorbed the full attention of management and employees alike; decentralization to an extent approached by few other industries; and, of no small importance, the dominant feeling in the industry generally that the primary function of the railways was to provide adequate and dependable transportation, leaving to others the problems of producing and improving equipment and materials essential to such transportation.

Whatever may have been the underlying reasons for the former failure of the railways to undertake large programs of research into specific physical problems, their attitude relative to this matter has changed materially in recent years. This has been born largely of greater unity of thought and effort brought about through the Association of American Railroads, the needs of the carriers for increased economy in all phases of construction, operation and maintenance, and the growing realization that while reliance must still be placed on others to furnish equipment and materials, the railways have many problems peculiar to their own operations which are not subject to laboratory analysis

alone, but which must be investigated under the severe field conditions which they alone can provide.

Today, as pointed out in an article elsewhere in this issue, engineering research on the railways covers a broad field, undertaken by them as a group through the research staff of the Engineering division of the A. A. R., and jointly with universities and manufacturers. Here alone are cited some 15 different investigations that are now under way, involving 24 units of testing, field observations and laboratory studies relative to the track structure, bridges, locomotive counterbalance, the cracking of boiler steel and various construction and maintenance materials. To this must be added the extensive investigations being conducted by the Mechanical division of the association, and the intensive research that is being carried on by well-organized staffs on many roads, which are devoting their entire time to the study and solution of the problems presented in different departments.

No one would contend that railroad-sponsored and conducted research has reached a millenium, or that it even meets present requirements, but no longer can critics from within and without point to indifference on the part of this industry to the value of scientific analysis of many physical problems. The railways have come to a realization that research pays, and that they must take the initiative in their own behalf. Much has already been accomplished, and the work goes forward at an accelerated pace, with the assurance that out of it will come safer and more efficient railroading.

I. C. C.'s Split Personality on Rates

The I. C. C. Rates Division told the motor carriers in I. & S. Dockets M1216 and 1445:

"We adopt as a policy the condemnation as unreasonable of a volume minimum weight, unless it is shown clearly that, as a result thereof, motor carriers can handle the traffic at the volume minimum weight at costs per 100 pounds which are less than the costs incurred at a reasonable truckload minimum weight."

That is to say, the division has ruled that it is the characteristics of truck transportation, and not those of the railroads, which must be considered in determining the reasonableness of truck rates. To your observer this decision seems sound. It is unfortunate that this division is not being permitted to decide the main policy questions affecting motor carrier rates.

All of the *ex parte* minimum rate proceedings of major importance are still being retained in old Division 5, notwithstanding that the Commission's reorganization plan and the Transportation Act of 1940 deprived it of its jurisdiction in such matters more than 12 months ago. Its retention of these cases seems to be a clear violation of the statute. At the time the Motor Carrier Act was being considered by Congress certain advocates, shrewdly or otherwise, charged that the Commission was "rail-minded". This accusation apparently had a profound effect upon the Commission—at any rate it organized a special division on motor carriers and otherwise leaned over backward to convince its accusers and others that the charge was not valid.

Many of the important decisions of this special division, which appear to adopt the views of shrewd "pick-and-choose" motor carrier spokesmen, have made strange reading. Observers on the "outside" —not connected with the railroads or the trucking business—have declared that, if they were not identified as official findings, they might easily be mistaken for the briefs of advocates.

The first important conclusion fathered by this special tenderness toward motor carrier views, and which unprejudiced observers have considered "brief-like" was that reached in the Pick-Up and Delivery case. There the Commission issued a blanket order without detailed evidence as to railroad costs and no evidence with respect to truck costs, requiring cancellation of all railroad free pick-up and delivery where the rate was less than 45 cents per 100 lb., but permitting the trucks to continue to perform such service at railroad station-to-station rates without any minimum, although there was no evidence that trucks could perform the service at less cost than the railroads, and there is much to indicate that the trucks are not in a much better position in this respect than the railroads. The present Rates Division has since declared this one-sided procedure unsound, but the Pick-Up and Delivery Decision still stands.

Other "brief-like" conclusions were ordered in the minimum rate cases, Ex Parte Nos. MC 20, 21, 22, 23. In these cases the Commission adopted railroad rates as the minimum for truck service after only perfunctory hearing, where the real issues under the law were not considered—apparently in disregard of the explicit mandate of the Motor Carrier Act, and of previous I. C. C. decisions with respect to minimum rates. None of these decisions, except possibly MC 22, evidenced mature judicial deliberation and even in MC 22 there continues to be threat that the order will be overthrown by "pick-and-choose" attack.

There has been a strong tendency in the Commission in important specific cases to divide traffic arbitrarily between different forms of transportation, at the expense of the public and the more efficient carriers, thereby depriving the public and such carriers of their rights, for the one-sided benefit of the few; and at the expense of the national economy. The question, however, is not a psychological one—what motive inspired the original arbitrary and paternalistic attitude toward the motor carriers? Rather, it is a logical one—why is this inconsistent and *prima facie* unlawful state of affairs being allowed to continue, when the old policy plainly does not conform to the present more mature and judicial attitude of the Commission, as evidenced in the decision in I. & S. Dockets M 1216 and 1445?

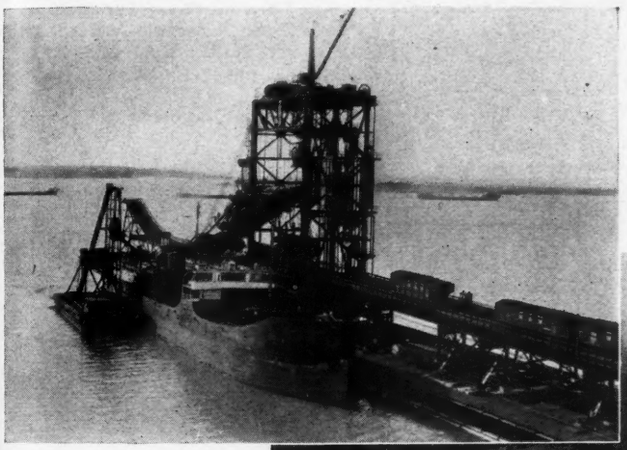
Isn't it time for the Commission to let its right hand know what its left hand doeth?

The Norfolk & Western Is Ready

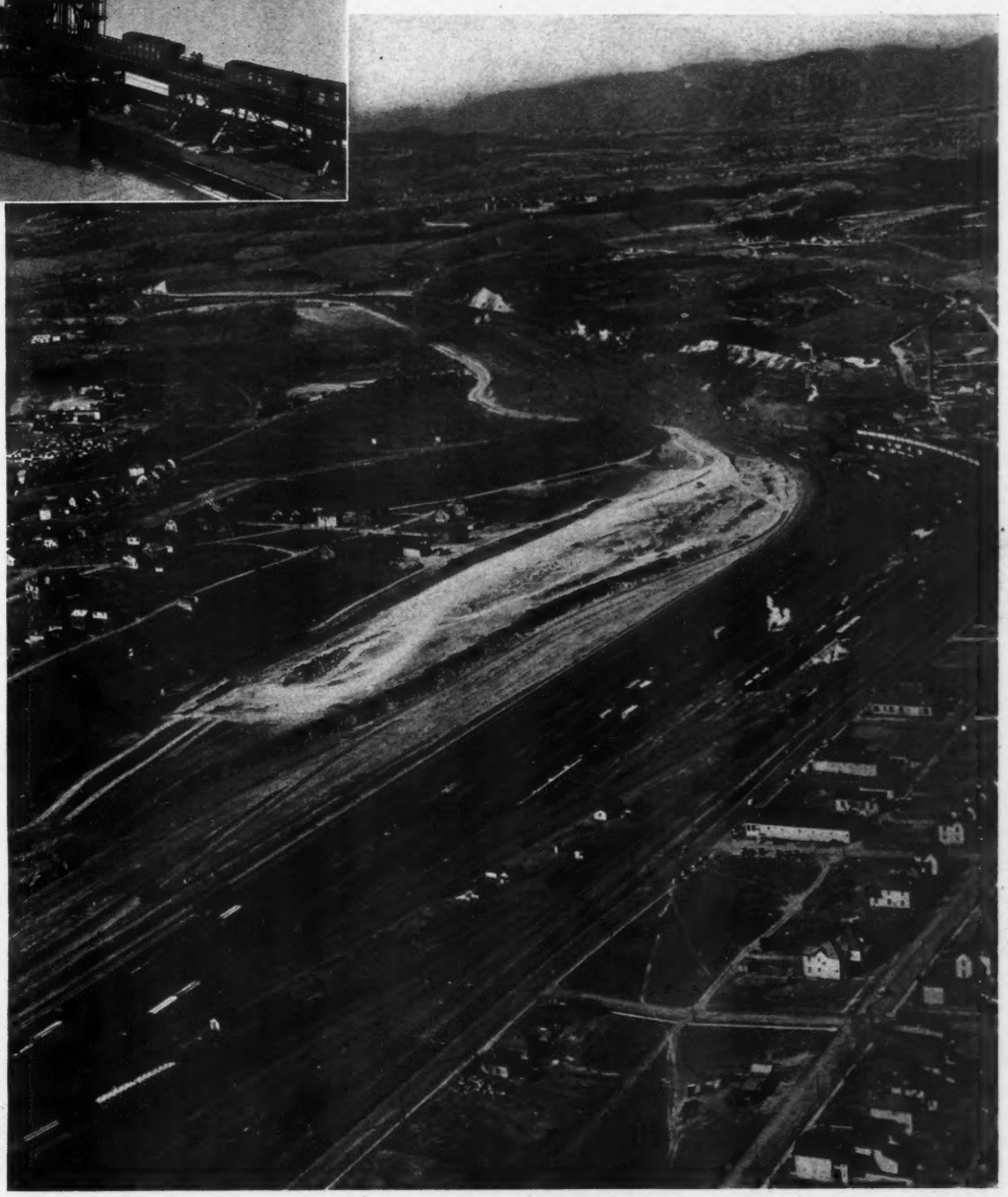
Operating efficiency and foresight in planning insure prompt movement of coal and other important defense traffic

STEADILY throughout the depression the Norfolk & Western spent large sums for improving its physical plant and rolling stock. The results have been highly satisfactory in developing operating economy and, equally important, in the improved service which the railroad is able to give its patrons. The initiative and vision of the management insure that this railway, which is so vital to national defense because of its location and the type of traffic handled, is prepared for any contingency in transportation.

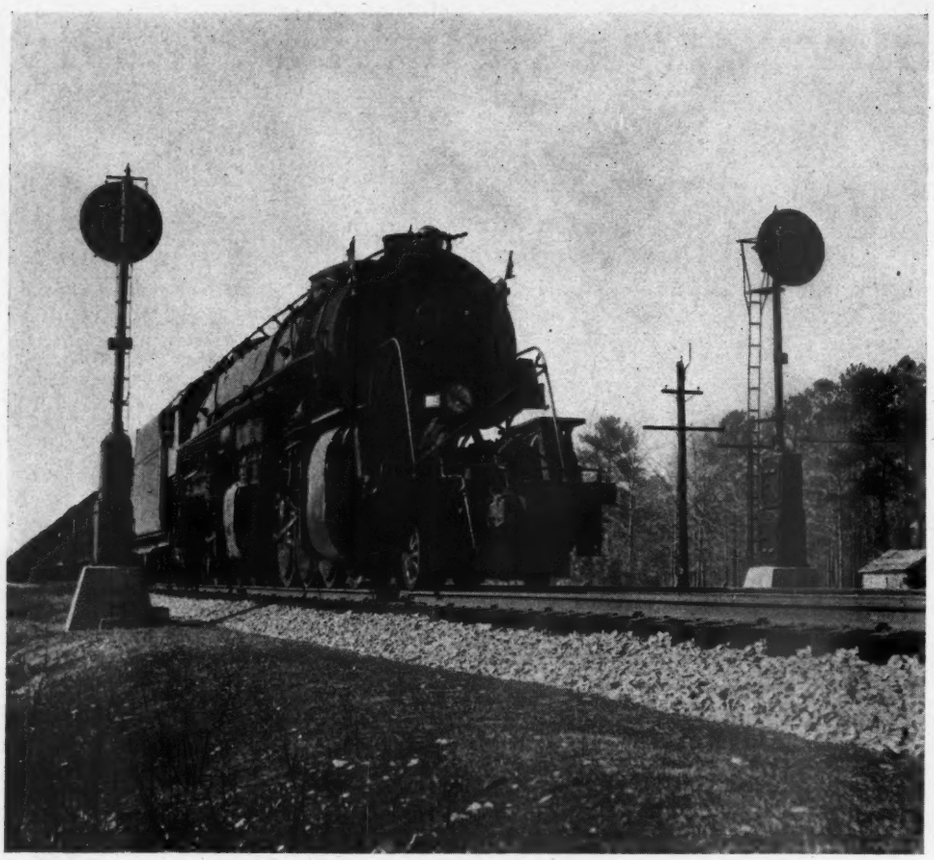
In the interests of better service to its patrons, the N. & W. spent approximately $150,000,000 during the period from 1930 to 1940 inclusive, for new locomotives, passenger and freight cars, tenders, expansion of terminals, heavier rail, ballast, moderization of the signal system and general improvements to its transportation plant. For example, the freight car ownership has been



Part of the Vast Terminal Facilities at Lambert Point, Va.



The New Yard at Roanoke, Va., is Rapidly Nearing Completion



A New Locomotive Hauling a Trainload of Coal to Tidewater Over Improved Track Protected by Modern Position-Light Signals

steadily increased from 45,916 in 1925 to 56,004 in 1940, or 22 per cent. New cars constructed within the last 10 years total 17,380 (2,850 box, 12,975 hopper, 1,500 gondola, and 55 covered hoppers). In addition, 14,460 freight cars (500 stock cars, 9,978 hopper cars, and 3,982 gondolas) were rebuilt during the same period. As of July 1, 1941, the N. & W. also had under construction or on order 2,750 freight cars (1,000 40-ft. box; 200 50-ft. box; 25 65-ft. 6-in. mill-type gondolas; 1,500 70-ton hopper cars; and 25 70-ton covered hopper cars).

Among other results of this consistent program of handling the bulk of the N. & W. traffic in modern cars, was the startling improvement of 1,984 per cent in total miles per car set out on account of freight car hot boxes —1,234,659 miles in 1940 as compared with 59,241 miles in 1925. Of course, much of this improvement was brought about by better car inspection, but some of it must be credited to the road's program of keeping a supply of modern cars.

Another important factor in the improvement has been the increased utilization of the modern cars which resulted from the speeding up of car movement. A sizeable percentage of N. & W. coal cars move in turnaround service between the mines and the tidewater terminal at Lambert Point, Va. This operation is by no means the downhill run which it is believed to be by those who are not familiar with the N. & W. topography. As a matter of fact, the railway crosses three mountain ranges enroute, which involve a total lift of 2,574 ft. Nonetheless, freight speed on the railway has been increased 25 per cent since 1925. The time spent by cars at Lambert Point Terminal has also been reduced materially.

Improvements made at Lambert Point to permit faster classification and trans-shipment of coal and speedier dispatch of cars through the terminal, in order to provide better service for shippers, involved the expenditure of several million dollars. The latest projects were the completion in 1940 of a 1,100-car capacity addition to the coal classification and storage yard, which increased the capacity of the yard to 6,000 cars, and a 200-car capacity repair yard, with modern buildings and other facilities.

Outstanding among the N. & W.'s facilities are its piers for trans-shipment of coal from cars to vessels. Developed from more than 50 years' experience are its present high level and low level lake type coal piers. The high level pier has on one side three telescopic chutes, mechanically equipped for handling coal from pier car to vessel hold, and mechanical trimming therein with a minimum breakage of the coal. The other side of this pier is equipped with simple, extensible chutes and special equipment for coaling tug boats and similar type craft.

The low level pier, which was built at a cost of nearly two million dollars during the discouraging depression years, is one of the most modern and efficient tidewater facilities in existence, and handles coal direct from railroad car to vessel with the minimum movement and breakage of coal. It is particularly suited for the handling of the high grade but comparatively soft Pocahontas and other "smokeless" types of coal which constitute a large part of the Norfolk & Western's traffic. In addition to the pier facilities, the railway provides a power-equipped bunkering barge which enables vessels to take bunker coal and cargo coal at the same time without either operation interfering with the other, thus greatly reducing the ships' loading time.

The capacity and efficiency of the N. & W.'s principal tidewater merchandise terminals at Lambert Point have been greatly increased during recent years. Facilities include three huge modern covered piers with a combined total of 1,086,000 sq. ft. of floor space, and pier tracks with a capacity of 230 cars. In addition, up-to-date pier

warehouses provide ten acres of storage space, while adjoining yard tracks have a capacity of 2,100 cars. Sixteen ocean going vessels can berth at the terminal simultaneously.

The railroad substantially increased its tidewater facilities by the purchase some years ago of the City of Norfolk's modern, concrete merchandise pier and grain elevator at Sewalls Point, at a cost of approximately $5,000,000. This solid-fill pier is 500 ft. wide and 1,210 ft. long. The north apron, 34 ft. wide, is a continuation of the grain elevator apron, thus forming 2,600 ft. of continuous berthing space, 1,035 ft. of which is equipped with galleries and dock spouts for loading grain. One-story warehouses, each 100 ft. wide and 1,175 ft. long, extend along both sides of the pier. This elevator has a storage capacity of 750,000 bushels. All of the grain-handling equipment is of the latest design. The pier warehouses are also of concrete construction throughout and are divided into three equal compartments by 12-in. concrete firewalls. They are designed for the addition of a second story if necessary. The railroad recently completed a large modern warehouse at Sewall's Point, and an up-to-date produce loading station at Portlock, near Norfolk.

This almost bewildering aggregation of port facilities for the handling of coal and general merchandise is being constantly studied for the purpose of finding new and improved operating methods which will speed up the movement of cars into and out of the terminals, and the loading and unloading of freight. The facilities previously described were constructed only after careful study and planning and their design is specifically adapted to the operating purpose they serve.

New Roanoke Yard

Still another improvement now well under way is a new yard at Roanoke, Va., to cost about $5,000,000. This project involves the removal of about 1,520,000 cu. yd. of rock and earth to make room for approximately 32 miles of additional tracks and a general rearrangement of terminal facilities. Upon completion, the new yard will be one of the largest individually owned terminals in the country. The additional tracks will be provided by the removal of 36 miles of existing tracks and the construction of 68 miles of new tracks.

The terminal will have a capacity of approximately 7,400 cars when completed. It will include an eastbound receiving yard of 20 tracks, with a capacity of 2,450 cars; an eastbound forwarding and classification yard of 46 tracks, capacity 2,250 cars; a westbound receiving and forwarding yard of 12 tracks, capacity 950 cars; a westbound empty yard of 10 tracks, capacity 1,570 cars; and an auxiliary yard of 11 tracks, capacity 180 cars. The eastbound forwarding and classification yards are to be provided with a double car retarder-equipped hump, with motion weighing scales. Also, there will be substantial improvement in locomotive handling facilities, with icing station, car repair tracks and other auxiliary facilities suitable to a yard of this size.

The yard at Portsmouth, Ohio, designed particularly for handling westbound coal, and with an original capacity of 8,325 cars, has been still further enlarged during the past year by extending 20 tracks of the eastbound empty yard 3,500 ft., at a cost of $325,000. This addition has increased the capacity of the yard by 1,525 cars. Further, there is now under construction at this point a westbound time freight classification yard consisting of 18 tracks, each having a capacity of 19 to 38 cars, or a total capacity of 496 cars. The yard will be car retarder equipped for quick handling of traffic.

All westbound coal for the lakes, moving all-rail or for transshipment, is weighed and waybilled at Portsmouth. To keep the loaded coal cars moving without delays caused by paper work, an unusual method has been devised for consigning and waybilling coal through the yard. By this method, cars may be consigned at the mine through to ultimate destination, or, under certain

The Portsmouth, Ohio, Yard Is the Gateway to the West

regulations, they may be forwarded to the scales at Portsmouth under mine tags, which identify the car and contents, but give no shipping instructions beyond Portsmouth. Instructions are supplied at the yard by the shipper or his accredited representative. As a result, many "hold" cars are eliminated at the mine yards, and the shipper is in a position to fill orders more quickly than would otherwise be possible.

Another important project to speed up train movement, increase operating efficiency, insure greater safety in the movement of traffic, and thus increase the capacity of the railroad, is the modernization of the signal system. The Norfolk and Western is now completing the modernization of automatic signals between Norfolk and Forest, Va., and between Columbus and Portsmouth, Ohio, at a total cost of approximately $2,548,000. These improvements cover 376 miles of line. Plans also are under way for the modernization of automatic signals between Portsmouth, Ohio, and Williamson, W. Va., (a distance of 112 miles) at a cost of approximately $665,000.

The Norfolk & Western signal modernization program includes replacement of the old semaphore type signals with those of the position-light type and the substitution of new coded track circuit control for the old polarized line circuits. In the coded track circuit system the electrial current used for operation of the signals is coded during transmission to eliminate any hazard caused by interference from any other electrical circuit.

The procurement of modern cars and the improvement in the physical plant, translated into operating efficiency that keeps cars moving, have prepared the N. & W. for almost any eventuality. For example, in October, 1939, after many relatively lean months, the railway was called upon, practically without warning, to handle 7 per cent more coal traffic than in any previous month in its history. It moved this huge traffic without congestion, delays or car shortages.

Track and Bridge Improvements

Since the depth of the depression in 1932, the N. & W. has spent large sums for track and bridge improvements. In the renewal of light rail with heavier rail of 100, 130 and 131-lb. sections in main, yard and side tracks, the railroad used 255,700 gross tons of new heavy rail and 129,400 gross tons of relay rail.

Branch lines have been constructed or extended in three locations, involving a total of 50.86 miles of new track, at an expenditure of $6,600,000. In addition, three long mine spurs, many industrial spurs, new and extended station, team, passing and yard tracks, with a total track mileage of 86.5 have been provided at a cost of nearly $4,500,000.

Modernization of bridges has been another important factor in the general improvement of the railway's facilities. Rebuilding old or inadequate bridges, or constructing new fills to replace bridges was accomplished at 66 locations, at an outlay of $1,540,000. These betterments, plus the high standard of maintenance on the N. & W., provide track and structures that are adequate for handling the heaviest traffic load.

One of the outstanding reasons for the remarkable efficiency of the N. & W. is to be found in the operation of its locomotives. In 1925, the railroad handled 27,037,267,000 gross ton miles, excluding locomotives and tenders; in 1940, the railway piled up a record of 30,178,450,000 gross ton miles. The ownership of freight locomotives in road service was 653 in 1925, and 347 in 1940. In other words, the N. & W. handled 12 per cent *more* gross ton miles in 1940, with 47 per cent *fewer* locomotives. This record was made possible by the fact that the greater part of the railway's freight traffic is handled by locomotives not more than 10 years old, and that all locomotives are in top notch mechanical condition. Furthermore, the percentage of traffic handled by new locomotives will be increased materially when 5 locomotives of the 4-8-4 type, and 16 of the 2-8-8-2 type, now under construction, are completed. Building of the 21 new locomotives is additional evidence of the N. & W.'s belief in preparedness. For many years, all of this road's new locomotives have been designed and built in its own shops at Roanoke.

Another striking example of this remarkable record of locomotive performance is the fact that the average tractive power of locomotives in road freight service was increased from 60,653 in 1925 to 88,947 in 1940, or 47 per cent. Incidentally, this is the exact percentage of the reduction of the number of locomotives in use. The gross ton miles per freight train mile, excluding the locomotive and tender, increased from 2,613 in 1925 to 3,805 in 1940, or 46 per cent. Average freight train speed increased from 12.3 m.p.h. to 15.4 m.p.h., or 25 per cent, while gross ton miles per freight train hour, excluding locomotives and tenders, rose 80 per cent, from 32,212 in 1925, to 57,984 in 1940.

The record of the maintenance of the locomotives, translated into operating figures, shows similarly good results. Consumption of coal per thousand gross ton miles, including the locomotive and tender, was reduced 39 per cent, or from 147 lb. in 1925, to 89 lb. in 1940. The number of freight locomotive failures were cut from 388 to 74, resulting in a 230 per cent increase in the miles per locomotive failure, or from 34,892 miles in 1925 to 114,970 in 1940. That these excellent results were not achieved by undue increases in mechanical maintenance costs is indicated by the fact that the cost of locomotive repairs per million tractive power pound-miles was $7.35 in 1925, and only $4.99 in 1940, a decrease of 32 per cent.

Locomotive Handling

The mechanical officers of the N. & W., working in close co-operation with the transportation department, see to it that the greatest possible use is obtained from the railway's modern, powerful and efficient locomotives. The 2-8-8-2 compound mallet class Y-6 freight locomotives are the newest and most powerful on the system. These engines, of which there are 35, have a tractive effort of 152,206 lb. simple, and 126,838 lb. compound. Out of Roanoke, for example, these locomotives are operated in pool service in five different directions; however, those operated southwest to Bristol and west to Bluefield are combined as locomotives dispatched west. During a recent 12-month period, these engines operated an average of 192 miles per calendar day, and have averaged 230 miles per day, excluding unserviceable days. To obtain this high mileage, it was necessary, of course, that the mechanical forces hold the motive-power turning time to a minimum. Roanoke is the maintenance point for the locomotives; yet the turning time at Roanoke for a month averaged only 3 hr. 47 min.

The results of the efficient locomotive operation are manifested in many ways. For example, the new locomotives have been responsible for the elimination of much double-heading. Gross ton miles per locomotive mile (excluding locomotive and tender) increased from 2,243 in 1926, to 3,387 in 1940, an improvement of 51 per cent. The figure of ton miles per train hour is informative of the operating improvement. For instance, on the Kenova district (Williamson, W. Va., to Portsmouth, Ohio), the gross ton miles per train mile were built up

from 4,013 in 1926, to 6,288 in 1940, while the gross ton miles per train hour increased from 57,429 in 1926 to 120,724 in 1940, or more than 112 per cent.

Another accurate estimate of locomotive and operating efficiency is the percentage of the tonnage rating handled by all trains. In this connection, an analysis of the Scioto division for May, 1941, shows remarkable results. From Williamson, W. Va., to Portsmouth, Ohio, for example, the average tonnage rating was 12,857 tons per train of coal. In May, 321 such trains were hauled, with an average tonnage of 12,759 tons per train, or 99.2 per cent of the tonnage rating. From Portsmouth to Columbus, with a tonnage rating of 12,473 tons, 292 trains were handled during the month, with an average of 12,343 tons, or 99 per cent of the rating. The Scioto division as a whole, showed a total of 1,846 freight trains of all classes operated during the month. They had a grand average tonnage rating of 6,957 tons, and a tonnage rating hauled of 90.3 per cent.

On the entire system, 5,667 through freight trains of all classes were operated during May, with a grand average of 86.9 per cent of the full tonnage hauling. These figures do not allow for tonnage pick-ups en route, which reached the sizeable total of 545,517 tons over the railroad during the month.

Prepared for Anything

Under private management, the Norfolk & Western has achieved the success in improving operating efficiency outlined in the preceding pages. During the last ten years, a period of stress for all industry and particularly for the railways, it has gone ahead with a continuing program of improving its plant and facilities. Despite the large volume of traffic it is now handling, the railway is prepared to handle the still greater traffic of the future. It is not only prepared to handle such traffic, but to conduct the transportation so vital to defense needs in an efficient and economical manner, without fuss and flurry. The N. & W. is ready to meet any calls that may be placed on it as a transportation machine.

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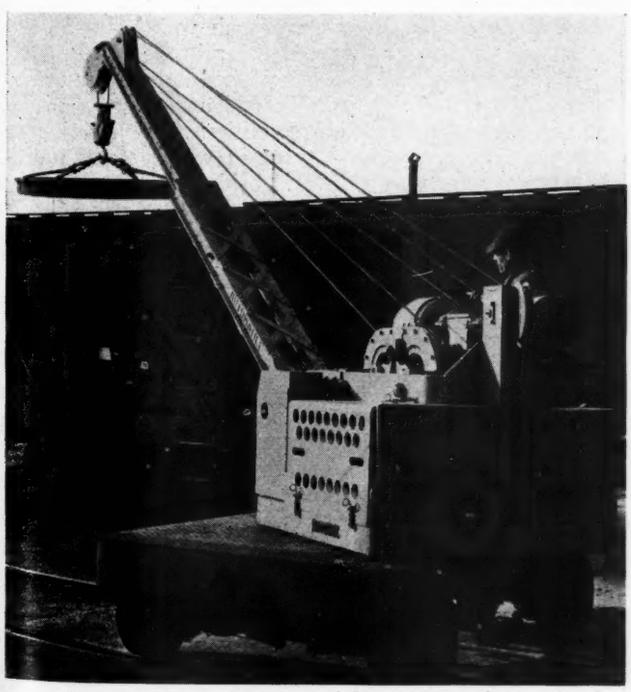


"Automatic" Crane Truck in Stores Work

Seasonal Variation In Pullman Revenue

WASHINGTON, D. C.

THE Interstate Commerce Commission's Bureau of Statistics has made public a study of seasonal variation in Pullman Company berth revenue, seat revenue, and passenger miles during the 1923-1941 period. The study covers 20 mimeographed sheets, most of them occupied by tabulations of the data and charts; it is Statement No. 4136 and is the second one in a series of such studies, the first of which relates to the Seasonal Variation in Railway Passenger Revenue and Passenger-miles, Class I Steam Railways, by Districts, 1923-1940, issued as Statement No. 4037, a summary of which was given in the *Railway Age* of October 5, 1940, page 481.

An introductory statement points out that the discussion of the principles and methods underlying the analysis of seasonal variation included in Statement No. 4037 is also applicable in the Pullman study. As stated in the previous study, the report goes on to say, the separation of railway passenger traffic proper between that in coaches on the one hand, and that in sleeping and parlor cars on the other was not available from railway records for a sufficient period of time to use in a comprehensive study of seasonal variation. Such a separation in the railway reports dates from June, 1936. Consequently, it continues, the present study is based on reports from the Pullman Company.

The report also notes that the Pullman Company reports a larger number of revenue passenger-miles than the total reported for sleeping and parlor car travel by Class I railways, chiefly because the Pullman Company collects revenue from many railway officers whose passes cover only the service by the railway and whose travel is "non-revenue" to the railways. The fact is also noted that the Pullman Company traffic, data for which are derived in the main from the company's monthly reports to the commission, is analyzed for the country as a whole, as no geographical segregation is required in the reports. The further fact is noted that in harmony with the recent change of base in various government series of index numbers, the base period used in this study has been made to comprise the years, 1935-1939, inclusive, although in the prior study the base period was 1923-1925. "Pullman Company traffic," says the report, "is affected not only by changes in Pullman fares for berth (including compartments, staterooms and bedrooms) and seat accommodations, but also by changes in the railway fares for tickets valid in Pullman accommodations. A collateral effect on Pullman traffic may also be brought about by changes in railway coach fares if they are sufficient to induce passengers to substitute one class of service for the other."

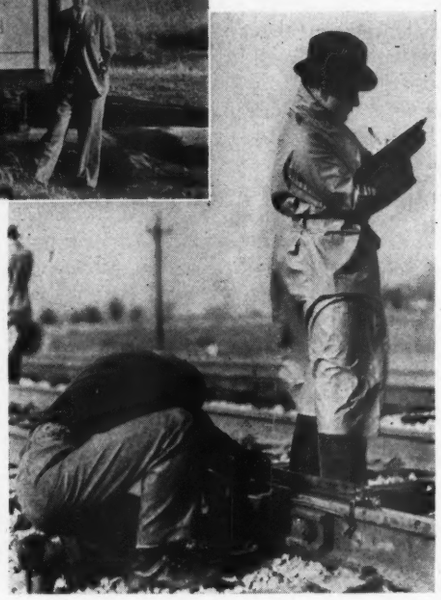
The study also notes that the purpose of measuring seasonal variation is to permit of an adjustment of the current monthly totals to show the underlying trend. The highest point attained in the 1923-1941 period on the basis of the adjusted indexes was 165.7 in November, 1925, and March, 1929, the study reveals.

"Following the economic trends generally," the report concludes, "Pullman berth revenue dropped abruptly from the high level of the period, 1925-1929, to the bottom in the spring of 1933, and thereafter recovered at a slower rate to regain the index level of 100 and over, beginning with July, 1936. Except for slight recessions in the spring and summer of 1938 and in the summer of 1940 this level has been maintained subsequently and has reached 110 and over in 1941."

Engineering

By W. S. Lacher

Secretary,
American Railway
Engineering Association



Upper Left — Instrument House Employed in Locomotive Counterbalance Investigation, Showing, Right, G. M. Magee, Research Engineer, A.A.R., and Left, E. E. Cress, Assistant Engineer of Tests. Left—Staff Members Taking Measurements in Connection With Rail Joint Tests

THE research work of the Engineering division of the Association of American Railroads now embraces some 15 different investigations, involving 24 different units of testing, field observations and laboratory studies. These investigations range from progressive service tests involving only a few days of field observations periodically, to major undertakings, such as counterbalance studies, which require the operation of special trains for a large number of test runs.

With the moving of the staff and instruments of the Stresses in Track investigation to the Chicago headquarters of the association in September, the research work of the Engineering division has been consolidated effectively. All of the tests and investigations have been placed under the supervision of G. M. Magee, research engineer of the division, with the exception of the investigation of fissures in railroad rails and certain allied studies, which are under the direction of Prof. H. F. Moore of the University of Illinois, who reports to special "contact" committees representing the Committee on Rail of the American Railway Engineering Association, and the rail manufacturers.

Scope of the Work

In general, the research work of the division may be considered under three different headings: Service tests, laboratory studies and primary field investigations. Some research projects may require work falling in all three classifications; others may require only one kind.

Service tests embrace the installation of one or more devices or types of construction in tracks or structures where they may be observed, measured or calibrated periodically for the purpose of establishing pertinent physical facts under normal service conditions. Many investigations of this kind are conducted by the railroads individually, but a considerable number of others are carried on in collaboration with or under the supervision of the research office of the division. In some cases the data are taken entirely by the railroads' own forces; in other cases all observations are made by members of the division's research staff. Co-operative effort in this regard has the advantage of providing service data under a wider variety of conditions and with greater assurance of uniformity in testing procedure.

Laboratory investigations are necessary for a variety of purposes, such as the determination of the basic physical properties of materials. The laboratory can also conduct accelerated tests as a short-cut substitute for service tests. Determination of the fatigue strength of materials is assuming constantly increasing importance and calls for special laboratory equipment and technic. It is the policy of the A. A. R. to have such work done in the laboratories of universities and the railroads.

Field investigations, as distinguished from field service tests, embrace those projects in which laboratory methods are applied under field conditions. Illustrative of these types of projects are those in which stress measurements are taken in rails and bridge members during the operation of regular or test trains. Work of this kind was initiated years ago by Dr. A. N. Talbor, professor emeritus, University of Illinois, in his investigations of stresses in track, and by Dean F. E. Turneaure of the University of Wisconsin, in his tests of bridges for the determination of impact. The field for work of this nature has been expanded greatly during the last 10 years as the result of the development of and improvements in the oscillograph, the magnetic strain gage and the carbon strip gage, which greatly facilitate the recording of instantaneous values of rapidly varying deformations (and, therefore, stresses). The carbon strip gage was used last year in determining the direct stresses (tension and compression) in a vertical direction in the webs of rails over gage distances of as little as ½ in.; and by placing several gages at different elevations, it was possible to determine the range of vertical web stresses from top to bottom—something that was impossible a few years ago.

Because of the demand for stress determinations under

* Abstracted from American Railway Engineering Association Bulletin No. 426.

Research Sponsored by A. A. R. Covers Broad Field*

Special staff carries on wide variety of investigations to aid in the solution of problems assigned to committees of the American Railway Engineering Association

the conditions of rapid variation that are the natural concomitant of railway operation, the A. A. R. authorized the purchase of oscillographs, gages and the necessary auxiliary equipment in sufficient units to permit the recording of deformations, vibrations and oscillations at 80 locations simultaneously, involving a total outlay of about $30,000. Thus, it is now possible to record the rail stresses and lateral movement of the track (for example) at the same time that a record is being made of the oscillations of the locomotive or car, the action of the springs, etc. During the present year this testing equipment has been used for locomotive counterbalance tests, bridge impact tests and the determination of vertical web stresses in rails.

For the purpose of affording a better understanding of the manner in which the research work of the Engineering division is carried out and to present an idea of the scope of the investigation, there follows a brief description of the various projects on which work is now either actively in progress or which call for periodical measurements and inspections.

Rail Investigations

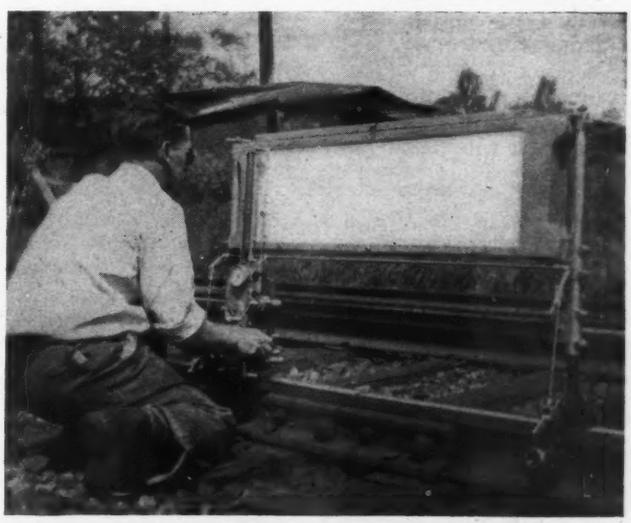
Rail, as the all-important element in the track, has always been the subject of study, if not of comprehensive research, and is being investigated actively at this time under a tri-party arrangement with the rail manufacturers and the University of Illinois. This project, which has been in progress since 1931, had for its initial objective the determination of the cause and means of preventing the formation of transverse fissures. This work, carried on under the direction of Prof. H. F. Moore, has been effective in isolating the cause—the shatter crack—and in demonstrating the effectiveness of the cure—thermal treatment. There remains, however, the determination of the tolerances in the application of the most widely used of these treatments—control cooling, with the view to the writing of a reliable specification. The investigation now also includes a study of the slow bend test for the purpose of determining whether it can be applied on a practical basis as a substitute for the drop test.

A collateral activity is the statistical record of rail failures which has been in progress since 1908, and which has been augmented in recent years by a special record of failures in control cooled and Brunorized rail for the purpose of insuring a thorough check of the effectiveness of these processes in precluding the formation of shatter cracks.

The rail has also been the object of an interesting investigation as the result of horizontal web cracks, a rather unusual type of failure that occurred in rail of 112-lb. section on the Denver & Rio Grande Western in 1939. The original study of this condition carried on in 1940, as reported by Dr. Talbot in the Proceedings of the A. R. E. A. for 1941, involved the use of carbon strip gages for the purpose of determining web stresses in a vertical direction, and disclosed the presence of tension on the outer side of the web, which has been ascribed to eccentric loading of the rails. Similar measurements were made during the present year on a special 115-lb., thick-web section rolled for the Denver & Rio Grande Western.

Rail Joint Studies

Perhaps even more attention is being focused on the rail joint, which is the subject of a variety of investigations, ranging all the way from a study of continuous butt-welded rail to field comparisons of various methods of building up battered rail ends. The study of continuous welded rail has embraced three separate lines of investigation. The behavior of welded rail with changes in temperature is being observed by means of periodic measurements of installations on the Bessemer & Lake Erie, the Central of Georgia and the Delaware & Hudson for the purpose of noting the movement of track due to temperature stresses and to compare the relative effectiveness of several types of track fastenings in holding the track in position. Statistics have been compiled covering the salient features of practically all installations of butt-welded rail, including data on all



Using the Graham Rail Profile Machine in the Rail-End Welding Investigation Being Conducted on the Richmond, Fredericksburg & Potomac at Penola, Va.

failures that have taken place. These field studies have been supplemented by rolling-load laboratory tests for the purpose of determining the relative fatigue strength of welds made by various processes. While the greater portion of the work on this assignment has been completed, the publication of conclusions must be withheld pending the accumulation of more complete service data.

Even more extensive tests are being conducted in an effort to effect improvements in jointed rail construction. These have for their specific purposes (1) determination of preferred designs of joint bars, (2) improvement in the metallurgy of joint bar steel, (3) determination of the optimum tension in track bolts and means of maintaining it, (4) a better knowledge of the value of end hardening, and (5) the relative merits and economy of various methods of building up battered rail ends. This investigation embraces the following activities:

Designs of Joint Bars

Various types of joint bars are being investigated in a test installation on the Atchison, Topeka & Santa Fe near Toluca, Ill., involving 9 one-mile stretches of track with 112-lb. rail, and in another test on the Pennsylvania near Valparaiso, Ind., embracing 12 half-mile sections of 131-lb. rail. The joints in these tracks were installed in 1937 and are being inspected and measured periodically for the purpose of determining the relative rate of deterioration. The observations include determination of rail surface profiles, joint camber, bolt tension and rail gap, and out-to-out measurements of the bars. One form of joint has already been eliminated from the test.

Another phase of the study of joint bars is an investigation of joint bar failures originating in fatigue cracks starting at the upper contact surface. This problem is being attacked from a number of angles. Joint assemblies have been subjected to fatigue tests in a rolling-load machine at the University of Illinois, and somewhat similar tests, involving the use of a large press, are now in progress at the plant of the Colorado Fuel & Iron Corporation at Pueblo, Colo. In the meantime, a test installation of 400 pairs of joint bars in a track of the Chicago, Burlington & Quincy at Ft. Morgan, Colo., is under observation for the purpose of noting the relative behavior of bars that vary as to both chemistry and heat treatment of the steel.

A collateral feature of this investigation is a photo-elastic study undertaken by Ray McBrian, engineer of standards and research of the Denver & Rio Grande Western, in that railroad's laboratory. This research project has not been completed, but the photo-elastic study points to a tendency of some designs of bar to high stress concentrations on the fishing surfaces and to a pre-disposition toward cocking.

Bolt Tension

As the track bolt is an important element of the rail joint, considerable time and effort are being devoted to a study of the following features of track bolt behavior:

(1) Tension at the time of laying;
(2) Loss or stability of tension;
(3) Inter-relation of characteristics of bolts, spring devices, bolt threads, etc.;
(4) Methods of checking tension; and
(5) Relation of tension to slip of the rail in the joint.

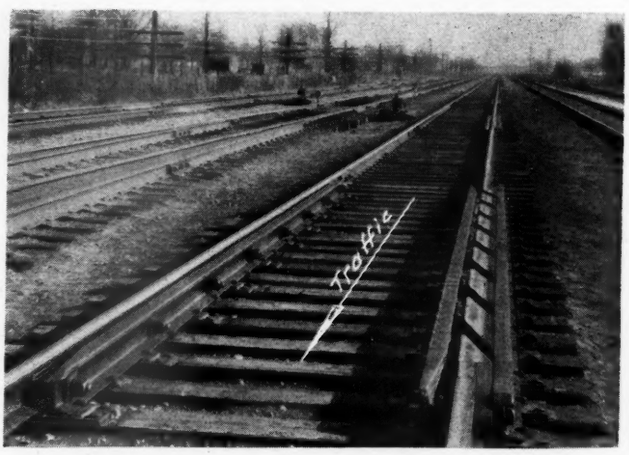
This investigation, which is being carried out by making periodic determinations of bolt tension in specific installations on five railroads, developed rather surprising phenomena from the very start—notably the fact that many bolts were being tightened to an extent that resulted in excessive tensile stresses; that methods commonly used for providing a predetermined bolt tension were unreliable; and that variations in thread fit introduced a wide range of torsion values which seriously upset efforts to use torsional resistances as a measure of bolt tension.

End Hardening and Welding

The rail end as a component part of the joint is being subjected to intensive research so far as two important practices are concerned—end hardening and end welding (for the purpose of building up battered areas).

The end hardening study has been in progress under the direction of Professor Moore for more than two years and consists primarily of observations of a test section of track on the Chesapeake & Ohio near Cary, Ohio, embracing nine lots of 100 rails each, including four lots, each subjected to field and mill hardening and one lot unhardened. The service performance of these nine stretches of track, which is being checked periodically, has been supplemented by laboratory investigations which included physical tests and metallographic analyses.

The study of rail end welding is one of the most recent projects undertaken, involving the use of a test section of track on the Richmond, Fredericksburg & Potomac



Group of Eight Manganese Steel Test Frog Points in C. M. St. P. & P. Track Near Mannheim, Ill. Two Other Groups on the Same Rail in the Background

at Penola, Va., which was completed in May, 1941, according to a plan suggested by F. M. Graham, assistant engineer of tests of the Pennsylvania. Eleven stretches of rail of 50 joints each were assigned to 10 railroads and 1 electric welding contractor for the restoration of the rail surface by welding. Oxy-acetylene was used for seven stretches, the direct current arc on three, and the alternating current arc on one. Each company applied its own particular methods with its own welders. Two members of the research staff took profile records of the joints before and after the welding, as well as records of the work done in the individual welding operations. It is planned to take profile measurements on this track at appropriate intervals.

Tests of Manganese Frogs

For the purpose of checking the wear on manganese frogs, and the effectiveness of various methods of building up worn parts by welding, arrangements were made with several manufacturers to furnish 24 special castings that provide the equivalent of a large number of closely spaced frog points. These have been placed in a freight

track on the Chicago, Milwaukee, St. Paul & Pacific near Mannheim, Ill., where they have been subjected to heavy freight train and transfer movements for a period of about two years. After the wear on these frogs has reached a predetermined stage, it is planned to restore the metal by various welding processes and thereafter observe the relative rates of wear, checking these field observations by metallographic examinations.

Locomotive Counterbalance Investigation

Among the most comprehensive investigations ever undertaken by the association is the study of locomotive counterbalancing that was started this year under the auspices of the Committee on Relation Between Track and Equipment in which the Engineering and Mechanical divisions are jointly represented. The work is being administered jointly by Mr. Magee as a representative of the Engineering division, and W. I. Cantley, mechanical engineer of the Mechanical division.

The procedure in this study is to make runs over a suitable piece of track at speeds ranging from 5 to 100 m. p. h., with locomotives having various wheel arrangements, each locomotive being tested several times, each time with different counterbalancing. The track at the site of these test runs is equipped for a distance of 50 ft. with roller-mounted tie plates and strain gages in such a way that it is possible to record lateral forces exerted on the track, as well as the vertical forces which are recorded by means of strain gages mounted on the under side of the base of the rail. In addition, accelerometers and weight bars mounted on the locomotive provide means of recording the various combinations of oscillatory motion as well as lateral pressures exerted by the wheels on the frame.

Late last year, at the request of the Chicago & North Western, the association's staff and equipment were employed in making counterbalance tests of several locomotives belonging to that road, which selected a stretch of track on its Wisconsin division near Harvard, Ill., for that purpose. This section of track proved so eminently fitted for the test runs that it is now being used with the permission of the North Western for the conduct of the series of runs embodied in the association's program.

The work during the present year has been delayed owing to late delivery of four 24-element oscillographs and other apparatus purchased for this investigation. However, it is expected that it will be possible to complete this year all of the runs of the first locomotive on the schedule—an Illinois Central locomotive of the mountain type. The work for next year contemplates runs with Pacific, Hudson and Northern type engines.

Other investigations on the schedule developed by the Joint Committee on Relation Between Track and Equipment embrace the relation of wheel loads to wheel diameters, the influence of track gage on lateral oscillation (nosing) of equipment, and the effects of flat and out-of-round wheels on track and equipment. A start on the first of these projects has been made in some rolling-load tests at the University of Illinois, and one railroad has agreed to adapt a part of its 1942 rail renewal program to the second project by laying rail to 4 ft. 8¼-in. and 4 ft. 8⅜-in. gage, as well as 4 ft. 8½-in. gage, in a location that will be suitable for high-speed test train runs.

While a large part of the time, effort and money devoted to research is being applied in the solution of track problems, structures have by no means been neglected. Among the most extensive projects is one (now in its second year) for the determination of impact loads on bridges.

To avoid duplication of effort, a large part of the time of the staff has been devoted to the analysis of data available from impact tests made by the Pennsylvania to record the effects of high speed runs on steam and electric locomotives. However, to make a start in the augmenting of the existing test data, the Committee on Impact is conducting tests this year on short-span bridges on the Santa Fe, the Burlington and the North Western, using instruments provided for the work in stresses in track. These tests embrace observations under both steam and Diesel-electric locomotives at speeds up to the maximum permitted. They will be productive of data on both open and ballast-deck floors, and tests will be made both with and without rail joints on the spans.

A third feature of the committee's study comprises the artificial vibrations of bridge spans with a power-operated oscillator, for the purpose of determining the properties of bridge spans with regard to their ability to dampen the induced vibrations.

Fatigue Tests of Structural Welds

Upon the recommendation of the Committee on Iron and Steel Structures, the association is collaborating in a co-operative investigation of the fatigue strength of structural welds which is being conducted at the University of Illinois under the direction of Professor W. M. Wilson. The object of this study is to determine the extent to which welding may be employed in the construction of new bridges, as well as in the repair and strengthening of old ones. This is a problem regarding which there is now a great deal of uncertainty because of inadequate information on the fatigue strength of welds, which is necessarily an important factor in structures that carry railroad loading.

The work on this project to date has included tests to determine whether periods of rest between applications of loads have a beneficial effect, and the tests made in this regard indicate that little value can be attached to such periods of rest.

The program of this investigation includes tests to determine the relative fatigue strength of riveted and welded joints in plates; the fatigue strength of joints in which plates are connected with plug welds or with fillet welds—longitudinal, transverse or combinations of the two; the relative fatigue strength of joints welded in the flat, vertical and overhead positions; and the metallurgical damage due to welding.

Other Investigations

The Committee on Waterproofing is conducting comparative tests on asphalts and coal tar pitches for the purpose of determining whether pitch may be substituted safely for asphalt in waterproofing railway structures. Various producers have supplied samples which are being subjected to specified tests in the laboratory of the Chicago & North Western. It is proposed to continue the tests on additional samples next year and to expand the test routine for the purpose of checking resistance to water penetration and vibration. A noteworthy collateral result of the investigation is the interest manifested by the manufacturers, several of whom are engaged in efforts to develop improved products that will meet the tests.

Through the Committee on Water Service, the association is participating in an investigation into the cause and means of preventing the cracking of boiler steel under certain combinations of circumstances. It is being conducted under the direction of the Joint Research Committee on Boiler Feedwater Studies which has represented the contributing organizations, namely, the American Society of Testing Materials, the American Society

(*Continued on page 951*)

Conditions Required to Burn Screenings Successfully*

Proper stoker equipment and grate design assure more efficient combustion when burning small size coals

By F. P. Roesch

Vice-President, Standard Stoker Company, Chicago

UNTIL quite recently we knew but little about what actually happens to the fuel bed in a locomotive firebox at various rates of combustion. The little we thought we knew was based largely on data obtained from stationary power plant tests, but aside from the fundamentals governing the combustion of solid fuel, there is no similarity whatever. We therefore naturally arrived at some erroneous conclusions, particularly with respect to the possible economical use of small-size coal, commonly called slack, or screenings.

The objections to the use of screenings as a locomotive fuel date back to the time when all locomotives were hand-fired, and while the reasons behind the objections—difficulty in firing, excessive cinder discharge or stack loss, etc., were valid the thought on which such reasoning was based was not sound, namely, that the cause of cinder discharge was due to the size of the coal fired, when as a matter of fact cinder discharge was simply the effect, the cause being locomotive conditions and methods under which the fuel was introduced.

In 1917 the University of Illinois made exhaustive tests with six sizes of Illinois coal which were reported in University of Illinois Bulletin 101, and accepted in many quarters as supporting the small-coal-cinder-discharge theory, regardless of the fact that the report carried the following clauses:

"It should be remembered that kind of coal, intensity of draft, firebox and front-end arrangement and probably other factors may materially affect the relations existing between cinder losses and the amount of fine material in coal, and that in the tests under consideration these variables have a very limited range. The results, therefore, if applied to conditions other than those from which they were derived should be used with caution and with an understanding of their limitations. During these tests with the four larger grades, larger quantities of cinders were collected than there was ¼-in. or smaller, material in the coal. For these coals a considerable portion of the cinders must therefore have come from comparatively large pieces of coal. In the screenings tests the cinders collected were materially less in amount than the ¼-in. or smaller material that existed in the coal. At all comparatively high rates of combustion, therefore, and probably also at lower rates, there must be factors determining the amount of cinders produced other than the original amount of fine material in the coal fired.

"At the high rate of evaporation it was more difficult to handle the fire with lump coal than with mine run; and at both rates the evaporative efficiency of the lump was less than that of mine run. The test results offer, therefore, no support for the popular belief in the superiority of lump coal."

Vertical Air Jets Primary Factor in Stack Loss

Ten years later observations, made during some mechanical stoker-fired locomotive tests at the Pennsylvania's Altoona test plant, indicated that the lifting effect of vertical air jets was the primary factor in stack loss, and that coal sizes were secondary. These conclusions were further confirmed by observations of fuel-bed behavior in a locomotive using forced draft, tested on the Texas & Pacific some months later. While, of course, it was impossible to measure the exact height to which particles of coal were lifted, yet based on what could be seen it appeared that the lifting action of vertical air jets was proportional to the square of their area. Subsequent tests outside of a locomotive firebox indicated that the above equation is approximately correct.

The dissemination of these findings resulted in the general replacement of finger-type grates in mechanically fired locomotives with table grates having restricted air openings, and while that helped it was not a complete solution of the problem.

Increasing the ratio of air opening to total grate area was not the answer either, as any thickening of the fuel bed at any point resulted in diverting the air flow toward adjacent less restricted areas, thus producing a spotty or uneven firebed.

It is easier to show with pictures than to describe in words, the idea I am trying to convey, which is particularly well illustrated by the full-color moving pictures of fuel bed reactions taken at the Selkirk test plant of the New York Central. (The moving pictures were shown). These tests and pictures are to my mind the greatest contribution to the art ever made, and the entire railroad fraternity is indebted to the railroad which conducted the tests and made information regarding the test results generally available.

From the pictures, it is evident that fairly large pieces of coal are picked up from the fuel bed and projected into the zone of high gas velocity where the gas stream passes over the rear end of the arch, a velocity calculated as equal to 2,000 to 3,000 ft. per sec. Naturally, any coal projected into this zone is gone forever insofar as boiling water is concerned, therefore, it should be clear that our problem is to hold these particles of coal as close to the fuel bed as possible until they are burned.

That, however, is a real problem. We know it requires about 200 cu. ft. of air to furnish enough oxygen to burn one pound of bituminous coal. We also know that the velocity of air flow through the fuel bed is proportional

* Synopsis of an address before the Western Society of Engineers, November 13, 1941.

to the difference in pressure above and below the grate, and varies automatically as the demand on the boiler, thus controlling the rate of burning. Therefore, it would appear that the logical thing to do would be to devise some means whereby the velocity of air flow could be automatically and mechanically baffled within or just above the grate without in any way affecting the volume of inflow; or that the grates be so designed that the inflow takes a horizontal instead of a vertical course, thereby changing vertical velocity through the fuel bed into turbulence within it; or develop other means to counteract vertical jet action. To put it another way, instead of considering draft as a pull from the front end as we sometimes do, we should remember that at the grate and fuel bed, air flow due to draft is caused by the pressure difference and subject to the same laws as any other air flow through orifices of various shapes and areas. When this is done, it would appear that we have the problem nearly solved.

Increased Thermal Efficiency Only Part of the Problem

Our present problem is not alone one of increasing the thermal efficiency of the locomotive through more complete combustion of the coal delivered to the locomotive firebox, but enabling locomotives to burn coal sizes such as screenings which cannot be disposed of in the domestic market.

There are at present approximately 780,000 small domestic stokers in service in this country, installed for two reasons, first to save coal, and second, to reduce the smoke evil. In order to meet both conditions, the manufacturers recommend the use of cleaned screen coal in sizes running from 1½ in. to 2 in. In meeting this demand, naturally screenings below these sizes are produced.

The market for coal screenings, like that for other sizes, such as egg, lump, mine run, etc., is seasonal. Therefore, considered from all angles, it appears that further tests using grates modified as previously suggested are warranted, in view of the possibility of enabling railroads to use the smaller sizes of coal as locomotive fuel without penalty of stack loss or cinder cutting.

Remarks by J. W. Hulson*

The statement of Mr. Roesch concerning the value of the pictures of firebox and firebed conditions, made possible by the New York Central, is not overdrawn. The openings used for the camera were not large enough to admit a sufficient volume of air to distort actual service conditions and because the pictures were taken at high speed, the film records the flying coal which the eye could not detect because of the high velocities. Opening the firedoor to observe the fire at high combustion rates admits sufficient air partially to satisfy the front-end draft, reducing the air flow through the grate and firebed. Using only a 6-in. hole for the camera, the true operating condition was recorded.

Some years ago the Hulson Grate Company developed a grate for stationary boilers for burning North Dakota lignites. The principal purpose of the design was to provide a non-lifting grate surface to minimize ashpit loss and support very thin fires, for spreader-type stoker firing. There was no direct opening through this grate. The air was directed horizontally into valleys made by castings of different heights with respect to the supporting rocking bars. This same design was later applied to a locomotive fired with West Virginia screenings to limit ashpan loss. It was quickly observed that the lifting action on the fire from the pulsating draft at slow speed and long cut off was greatly reduced. In fact, no increase in fuel bed thickness was required to keep the fire and the fed coal on the grate. Very thin fires were possible at all times, the reduction in stack loss was very apparent and fuel economy reached unusual proportions.

This design has been developed and improved for locomotive application and is called the Hulson Tuyere-type grate. [Mr. Hulson here reviewed the design of the Tuyere-type grate, illustrated and described in the *Railway Age* of July 9, 1938, and showed by means of a moving picture how the grate functions to prevent lifting action with even the smallest coal sizes which are violently agitated on the round hole grate, lifted 24 in. or more above the grate surface and hence enter the stream flow of high-velocity gas and represent actual stack loss from a locomotive firebox.—Editor.]

In actual practice with a burning fuel bed, each piece of coal is becoming lighter. Over the round-hole grates at the high combustion rates, the burning coal takes off in flight when its mass is reduced below the lifting ability of the vertical jets. Because the larger pieces of bituminous coal break down as they are roasted to kindling temperature, the small pieces that are broken off are quickly lifted from the firebed. This fact may explain the increased stack loss indicated by the University of Illinois tests, Bulletin 101, under certain combustion rates and grate conditions when firing large sizes as compared with screenings.

The action of the fuel particles in all views is shown at one-fourth the actual velocities. You will note that coal delivered to a point 14 in. to 18 in. above the grate line over the Tuyere-type grate falls to the grate because of the absence of vertical jets, indicating the dispersion and horizontal turbulence produced by the impringment of one jet on another. The lifting action, as shown with the vertical jet coming from the round-hole grate, is practically eliminated.

The comparative action over both grates with No. 4 Buck coal is clearly indicated and shows the complete loss over the round-hole grate and the very small loss oven the Tuyere-type grate. It gives a good comparison of actual firing conditions using relatively small sizes of bituminous or anthracite coal. The reduction in stack loss is apparent on locomotives equipped with the improved grate with a corresponding reduction in cinder cutting, boiler maintenance and fuel consumption.

With this development in grate design, we believe the use of the smaller sizes of coal as locomotive fuel is limited only by economic conditions governing supply—not by grate design and mechanical firing.

* President, Hulson Grate Company, Chicago.

Engineering Research Sponsored by A. A. R.

(*Continued from page 949*)

of Mechanical Engineers, the American Railway Engineering Association, the American Waterworks Association, the boiler manufacturers, and the public service companies.

Possible advantages of the use of asphalt in ballast are being studied under the auspices of the Committee on Roadway and Ballast by means of a test installation of the New York Central at Bryan, Ohio, completed in the fall of 1939. However, at the present time this investigation calls for no more than an occasional inspection; and it is hoped that one or two other test installations may be placed in service.

Self-Propelled Trains for the D. & R. G. W.

The Prospectors, built by Budd, provide complete facilities for overnight service in two cars

TWO self-propelled stainless-steel passenger trains, each consisting of two cars, have been delivered to the Denver & Rio Grande Western by the Edward G. Budd Manufacturing Company. Practically the entire floor space of the cars is available for revenue purposes. Mounted under the floor of each car are two 192-hp. Diesel-electric power plants, all controlled from the operator's station at the front end of the train. The two trains, named "The Prospectors," will provide an overnight service between Denver, Colo., and Salt Lake City, Utah, a distance of 607 miles.

In the two cars there are coach, open-section sleeping car, single-bedroom, dining, and lounge facilities, with a baggage compartment at the front end of the train. Behind the luggage compartment is the coach section, seating 44 passengers. To the rear of this are roomy men's and women's dressing rooms and toilets.

There are vestibule entrances at the rear of the first car and the front end of the second car.

At the front of the second car are women's and men's dressing rooms and toilets. Next are the sleeping-car sections with eight upper and lower berths. Behind the open sections are two chambrettes (single-occupancy rooms) each equipped with a folding bed, a folding chair, and complete toilet facilities. A connecting door between the chambrettes permits them to be combined in a double room of drawing-room size.

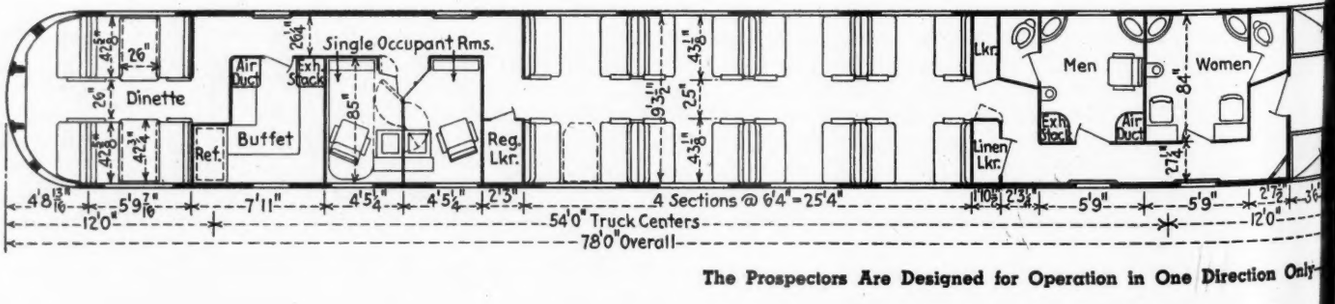
Next to the rear is a buffet kitchen. The dinette, which adjoins the buffet, consists of two sections with tables, one on each side of the car. Two observation-lounge seats face the windows around the rear end of the car.

As the trains are designed for operation in one direction only, the double coach seats are not reversible, but each seat has individual reclining backs. The decorations are simple and the colors are in soft tones. The center ceilings are in deep cream with coral on the side ceilings, the under side of the luggage racks and the walls down to the floor. The coral tone is also used in the upholstery. The floor is covered with a jaspe linoleum in driftwood gray with aisle strips in a rectangular pattern of marbleized brown and black. The Pantasote window shades are faced inside with a cream colored self pattern.

The sleeping-car sections were developed by the car builder. The upper berth pushes up toward the ceiling horizontally instead of folding upward at an angle.

The sleeping, dining, and observation sections are decorated in a deep flesh tone on the ceilings with gray blue and pearl gray on the walls, which blend with the same colors in the chairs and seats. In the dinette and observation sections the upholstery is in deep tan leather with terra cotta piping.

The two power plants on each car are mounted under the car at diagonally opposite corners near the trucks. Each power plant is enclosed in a sound-proof box and



The Prospectors Are Designed for Operation in One Direction Only

consists of a 192-hp. Hercules Diesel engine with General Electric traction and auxiliary generators, an Exide storage battery, a Schwitzer-Cummins normalizer, a heat exchanger, and a panel board containing switches and gages.

The Diesel engine is of the horizontal type, with six four-cycle cylinders of 5½-in. bore by 6-in. stroke, and a total piston displacement of 855 cu. in. Its full power rating is developed at 1,650 r.p.m. The engines are started by special windings in the traction generator, no separate starting motor being required.

In the run between Denver and Salt Lake City the altitude rises from 5,200 ft. to 9,600 ft. in a distance of 39 miles. The purpose of the normalizer is to maintain normal sea-level air pressure for engine operation irrespective of the altitude. It consists of a two-lobe Roots blower and is belt driven from the traction generator. The blower outlets feed into the engine intake.

Engine cooling is effected by a radiator with two fans directly connected to the auxiliary generator on each engine. A thermal control is set in the radiator outlet to advance the fan speed when the water leaving the

The Dinette—At the Rear Is the Observation-Lounge

radiator rises to a temperature too high to cool the engine. The design is such that the fans operate at the lower speed at all times except when the engine is on full load and the ambient temperature is above 85 deg. F.

The four power plants on each train are operated through multiple-unit control from a very simple master controller. This may also be used for controlling eight power plants in case a four-car train is desired. The master controller has seven positions which cause the four Bosch engine governors to be set at seven different positions through electro-pneumatic controls. Each position of the controller thus causes the engines to run at one of seven different predetermined speeds ranging from 700 at idling to 1,650 at full power output.

To insure maximum engine performance at each governor-controlled speed, an amplidyne control is employed which causes the generator to produce a predetermined

The Coach Interior

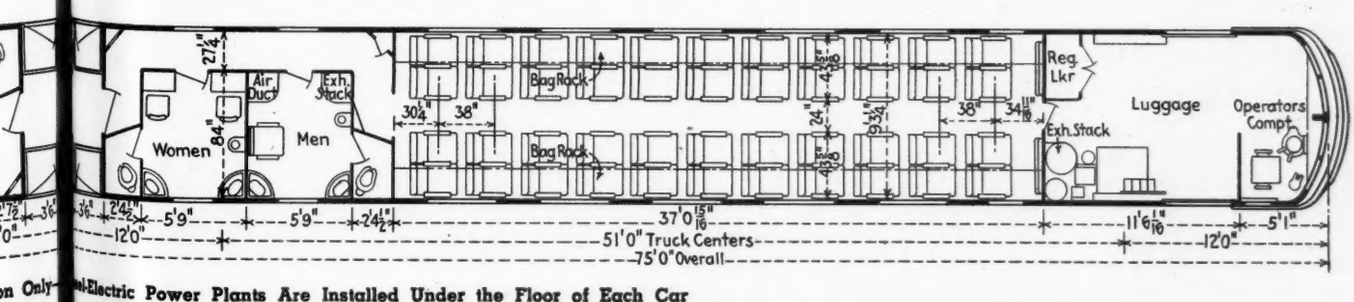
power output at that speed. As the train speed increases or decreases and the traction-motor counter-voltage rises or falls, the amplidyne control varies the relation of generator current and voltage so that the product of these values is constant.

Car Heating, Cooling, and Ventilation

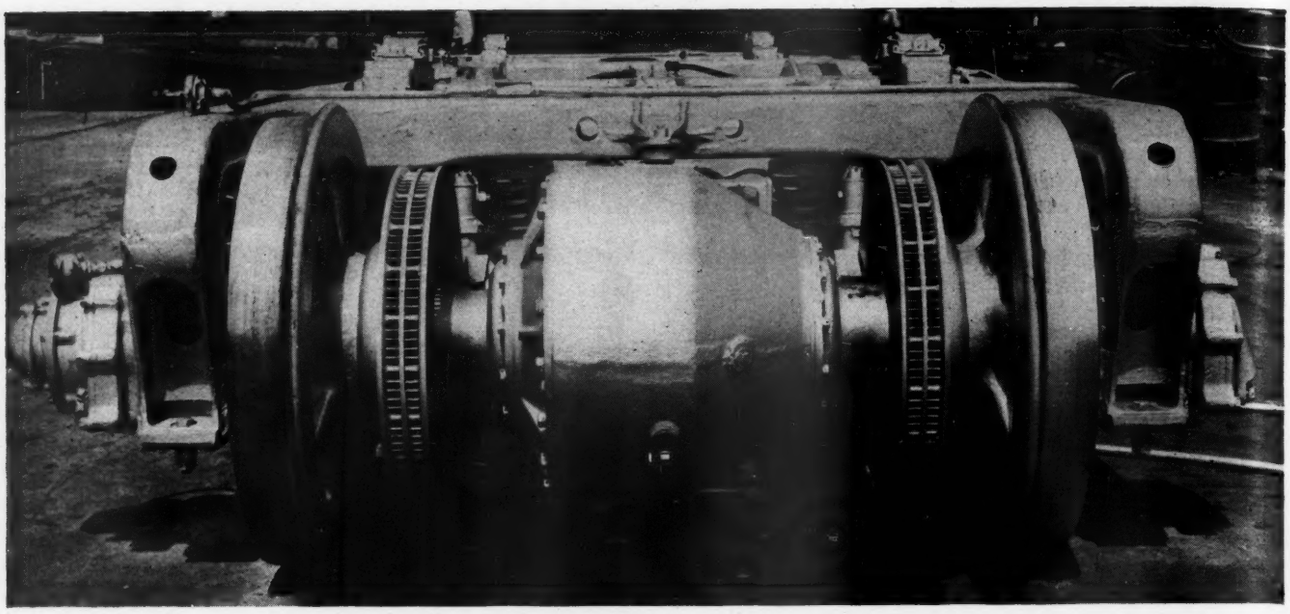
The system of temperature and ventilation control in the train is entirely automatic and adjusts itself to heating or cooling by a thermostat in the fresh-air duct. At temperatures below 65 deg. F., the system is set up on the heating cycle, and above 72 deg. F. on the cooling cycle. In the range of ambient temperatures between 65 deg. and 72 deg. F. neither heating nor cooling is applied, but a manual switch makes either available if desired.

On the heating cycle a circulating pump is in operation which takes the engine cooling fluid from its normal course to the engine radiator and circulates it through the floor and overhead radiators. On the cooling cycle the circulating pump is shut down and thermostatic connections are made with the Freon compressor.

Since the engine jacket water is used for train heating, the control of the engine-water temperature, therefore, performs an important function in the control of the heating system. A Sylphon engine temperature regulator controls the engine-water temperature so that it will not go below 160 deg. F. The thermal element of this valve is located in the discharge water line from the Diesel



Electric Power Plants Are Installed Under the Floor of Each Car



An End View of the Truck Showing the Gear Housing and the Brake Discs—In the Background Are the Motor Suspension Springs

engine and the operation of the valve is such that the water from the engine will either go around a by-pass back to the engine water pump or to the radiator to permit cooling. Variable amounts of the water from the Diesel engine may go to the by-pass and to the radiator simultaneously. When the engine-water temperature is low all the water goes through the by-pass and back to the engine. When the engine temperature is high all the water goes to the radiator and then back to the engine.

Dimensions and Weights of The Prospector

	Front car	Rear car
Length overall, ft.-in.	75-0	78-0
Width inside, ft.-in.	9-3½	9-3½
Height, rail to top of roof, ft.-in.	12-8 7/16	12-8 7/16
Height, rail to top of floor, ft.-in.	4-3 7/16	4-3 7/16
Height, floor to ceiling, ft.-in.	7-6	7-6
Distance between truck centers, ft.-in.	51-0	54-0
Truck wheel base, ft.-in.	9-0	9-0
Diameter truck wheels, in.	36	36
Journals, nominal size, in.	5½ x 10	5½ x 10
Weights, lb.:		
Total, ready to run	129,820	133,810
Car body, ready to run	84,320	88,310
Trucks	45,500	45,500

Car cooling is accomplished by Sturtevant electromechanical air conditioning with the Fulton-Sylphon electric control. The compressor is a four-cylinder machine driven by a General Electric dual motor consisting of a 20-hp. d.c. element operating from the auxiliary generator and a 15-hp. element operating from standby power. When operating on standby power the d.c. element functions as a generator to supply 64-volt power to the car, and the act of plugging in the a.c. power automatically causes the unloading of all four cylinders of the compressor.

The heating and air-conditioning control system is entirely automatic. The control switch has four positions; namely, "Run," "Yard," "Manual heat," and "Manual cool." Normally, the train crew has only to put the control switch in either the "Run" or "Yard" position.

The cooling system is controlled in two steps. When the temperature in the return-air stream drops below 74 deg. F., half of the cylinders of the compressor are made inactive by a solenoid by-pass valve and a solenoid valve closes off half of the evaporator surface. If the temperature goes below 72 deg. F., the compressor is shut down; above 74 deg. F., the compressor is running with full load.

Lighting

Fluorescent lighting in Safety fixtures is used exclusively, except for the cab and vestibules. In the coach are ceiling fixtures for general illumination and bag-rack units for reading. In the sleeping-car sections and cabinettes the 9-in., 6-watt lamp units have manual starting switches. All other lighting is accomplished with 15-in., 14-watt lamps with magnetic starters. At the front end of the train a movable spotlight supplements the headlight on curved track.

Trucks and Couplers

The four-wheel trucks are General Steel Castings single drop equalizer type, with coil springs under the bolsters as well as between the truck frames and equalizers. Each axle is driven by a high-speed propeller-type motor through bevel gears, the commutator end of the motor being suspended between the coil springs mounted in the truck transom. The wheels have cast-steel spoke centers with steel tires, 36 in. in diameter.

This type of wheel was adopted because the Budd disc brake relieves the wheel rims of the temperature rise caused by rim braking. On all axle journals are Timken roller bearings.

The truck brakes are the Budd disc type. Double cast-iron discs are mounted on the inside hub of each wheel; the inner and outer faces of the discs are separated by radial vanes which act as impellers for the dissipation of the heat generated in braking. Brake shoes are of composition lining, one on each side of the disc and covering approximately one-fourth of the circumference. These shoes are operated by a pair of tongs fulcrumed on a support lying just outside of the disc radius. The outer extremities of the tongs are coupled to the pistons in an air cylinder. The coefficient of friction between the brake shoes and the cast-iron discs is said to be practically constant through a wide range of application pressures, temperatures, speed, and sequence of application. Decelera-

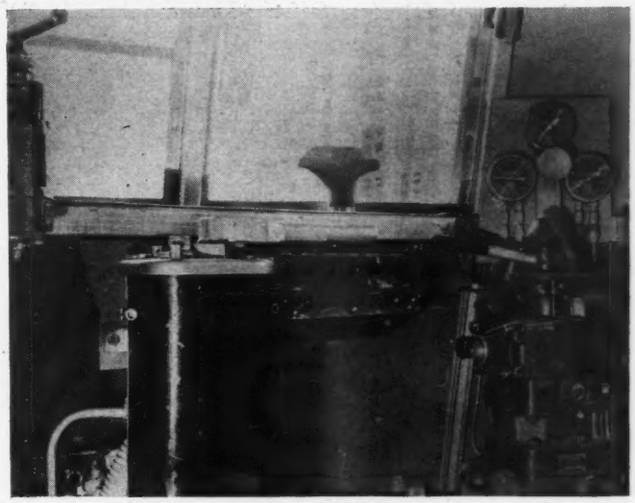
tion is, therefore, approximately uniform from the beginning of the application until the train stops. The emergency deceleration rate on The Prospectors is set at about 3.3 miles per hour per second.

Partial List of Materials and Equipment on the D. & R. G. W. "Prospector" Trains

Stainless steel	Allegheny-Ludlum Steel Corp., Pittsburgh, Pa.
	American Steel & Wire Company, Cleveland, Ohio.
	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
	The Eastern Rolling Mill Co., Baltimore, Md.
	Republic Steel Corp., Massillon, Ohio.
Truck frames	General Steel Castings Corp., Eddystone, Pa.
Wheel centers	American Locomotive Company, New York.
Axles	Bethlehem Steel Co., Bethlehem, Pa.
Roller bearings	The Timken Roller Bearing Co., Canton, Ohio.
Springs	American Locomotive Co., Railway Steel Spring Div., New York.
Brakes	Westinghouse Air Brake Co., Wilmerding, Pa.
Couplers	American Steel Foundries, Chicago.
	McConway & Torley Co., Pittsburgh, Pa.
Draft gear	W. H. Miner, Inc., Chicago.
Castings	Crucible Steel Co. of America, New York.
	Dodge Steel Co., Philadelphia, Pa.
	Treadwell Engineering Co., Easton, Pa.
Diesel engine	Hercules Motors Corp., Canton, Ohio.
Normalizers	Schwitzer-Cummins Co., Indianapolis, Ind.
Amplidyne; traction generators	General Electric Company, Schenectady, N. Y.
Radiator	Young Radiator Co., Racine, Wis.
Cooling fans	B. F. Sturtevant Co., Hyde Park, Boston, Mass.
Water pumps	Worthington Pump and Machinery Corp., Harrison, N. J.
Air compressor	Westinghouse Air Brake Co., Wilmerding, Pa.
Batteries	Electric Storage Battery Co., Philadelphia, Pa.
Insulation	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Air conditioning	B. F. Sturtevant Co., Hyde Park, Boston, Mass.
Heating	The Fulton-Sylphon Co., Knoxville, Tenn.
Anemostat	Anemostat Corp. of America, New York.
Grills	Barber-Colman Company, Rockford, Ill.
Lighting	Safety Car Heating & Lighting Co., New York.
Lamps; wire	General Electric Company, Schenectady, N. Y.
Conduit	Republic Steel Corp., Massillon, Ohio.
Receptacles	The Pyle-National Company, Chicago.
Sash	Hunter Sash Co., Inc., Flushing, L. I., N. Y.
Glass	Hires-Turner Glass Co., Philadelphia, Pa.
	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
	Pressed Prism Plate Glass Co., Chicago.
Roller curtains	The Pantasote Co., Inc., New York.
Curtain fixtures	The Adams & Westlake Co., Elkhart, Ind.
Carpet; upholstery; drapes	L. C. Chase & Co., Inc., New York.
Cork; linoleum	Armstrong Cork Co., Lancaster, Pa.
Kitchen equipment	Angelo Colonna, Philadelphia, Pa.
Coach seats; vanity chairs	Troy Sunshade Co., Troy, Ohio.
Lounge chairs	Heywood-Wakefield Co., Gardner, Mass.
Water cooler	Marquette Railway Supply Co., Chicago.
Lavatories	Crane Co., Chicago.
Hoppers	Duner Co., Chicago.
Pipe covering	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Paint	E. I. du Pont de Nemours & Co., Wilmington, Del.

The brake cylinders are attached by bolting flanges to the sides of the motor case, and the torque reaction is taken through the motor suspension springs.

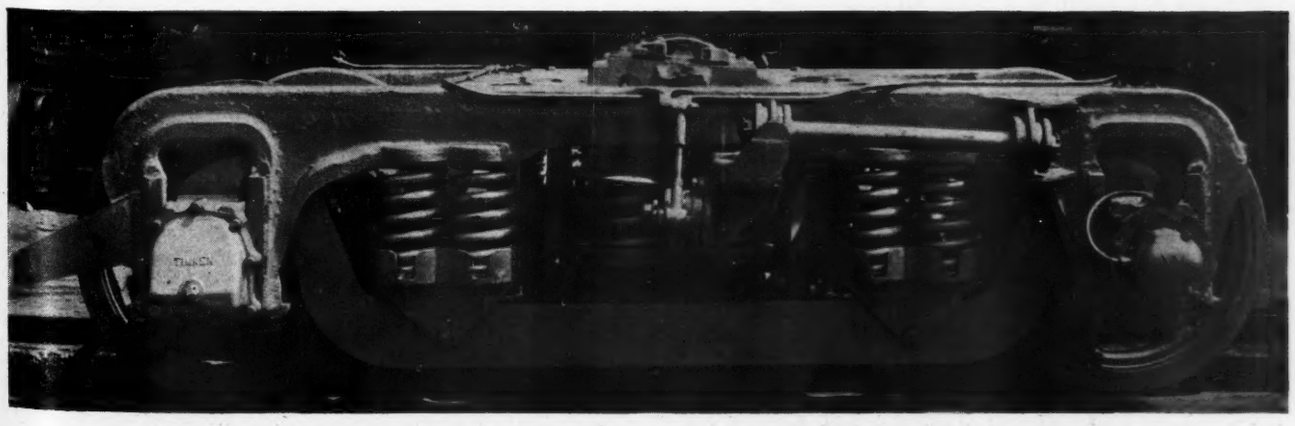
The air brakes are the Westinghouse H.S.C. system with electro-pneumatic control and decelostat wheel-slip control. Air is supplied by two Westinghouse DH-25 motor-driven compressors located in the baggage room of the front car. Sanding equipment is applied on each truck and is operated manually by the engineman or automatically in emergency and when the decelostat relays operate.



The Operator's Station at the Front End of the Train

The car bodies differ in some respects from the customary Budd type of structure. Strain-gage measurements indicate that they can withstand 400,000 lb, end compression, including a safety factor of two, which is adequate to permit a total train weight of 600,000 lb.—approximately double the normal two-car train consist. The sides below the window sill are corrugated plate girders. The corrugations, similar in form to those on the roof, are spot welded to the vertical frame members. The structure above the belt rail is the customary truss type.

The couplers between the cars are the American Steel Foundries controlled-slack type and are fitted with special Miner draft gears designed for these trains. McConway & Torley retractable couplers are installed at the front and rear ends of the trains.



The Drop-Equalizer Trucks Have Coil Springs Under the Bolsters

RR Concessions End Wage Issue

Mr. Roosevelt apparently didn't even suggest to the unions that they should accept his fact finding board's report

WASHINGTON, D. C.

SETTLEMENT of the wage controversy under a mediation agreement wherein the railroads grant basic-pay increases which are expected to augment their annual payroll costs by $315,000,000 to $317,000,000 was announced by President Roosevelt on December 2. The increased wage bill assumed will thus be from $50,000,000 to $52,000,000 higher than the $265,000,000 which would have been involved in the wage adjustments and vacations with pay recommended in the original report of the President's Emergency Board.

Terms of Settlement

The agreement was reached on December 1 on the basis of suggestions submitted by the reconvened Emergency Board functioning as a mediation board. Under the terms of the settlement, the December 31, 1942, expiration date originally recommended by the Board is removed, all increases thus becoming raises in basic rates. The operating employees get retroactive increases for the period from September 1 until December 1 at the 7½ per cent rate as originally recommended; but as of December 1 that basis is superseded by the mediation agreement's provision for an increase of 9½ cents per hour in basic hourly rates, which amounts to 76 cents per day. The non-operating employees likewise get their retroactive pay for the September 1—December 1 period on the basis originally recommended—nine cents per hour; while as of December 1 they get another cent, making their raise 10 cents per hour or 80 cents a day.

Also the non-operating employees get more liberal vacation arrangements. In that connection the Board had originally recommended an annual vacation with pay of six consecutive working days for non-operating employees who did not already have more favorable arrangements. The mediation agreement approves this recommendation with the additional provision that employees in the clerk and telegrapher classifications who have two years of service shall receive a nine-day vacation and those with three years of service or more shall receive a 12-day vacation.

What the Emergency Board called "a brief resumé of the provisions of the mediation settlement" was submitted to President Roosevelt on December 2 in the form of a letter signed by all five members of the Board —Wayne Lyman Morse, dean of the law school, University of Oregon, chairman; Thomas Reed Powell, professor of law, Harvard Law School; James Cummings Bonbright, professor of finance, Columbia University; Joseph Henry Willits, director for social science, Rockefeller Foundation; and Huston Thompson, Washington, D. C., attorney. A final report on the mediation proceedings as well as a report on the record of the November 28 and 29 reargument hearings were to follow.

Moratorium on Rules

In addition to the foregoing, the resumé report revealed that the carriers agreed to make the increases in the basic rates of pay "on condition that railway labor organizations would in turn agree to a moratorium for the period of the national emergency on proposals for changes in rules." The exact details of the moratorium agreement are to be worked out but the Board said that it "creates dual obligations in that both labor and management agree that they will not press for rules changes during the emergency period." Thus it would appear that the Brotherhood of Railroad Trainmen is stopped from pressing for the rules changes demanded in notices served last week by its president, A. F. Whitney, as noted in the *Railway Age* of November 29. The Whitney demands called for the limiting of freight trains to 70 cars and passenger trains to 14 cars; vacations with pay for trainmen; punitive overtime; and allowances for expenses of trainmen at away-from-home terminals. Likewise, the railroads are precluded from pressing for the rules changes which they demanded when the wage-increase notices were originally served and which were to be taken up after the disposition of the wage matter.

While representatives of the railroads accepted the proposals and union representatives either did so or agreed to recommend acceptance to their general chairmen, the spokesmen for the Railway Express Agency informed the Board that R. E. A. would not agree to a settlement calling for a granting to its employees of 10 cents an hour increase. In the original report the Board recommended a 7½ cents per hour increase for R. E. A. employees and estimated that such an adjustment would cost the Express Agency $7,000,000 a year. In its letter to the President, the Board said that the management of R. E. A. should be requested to join in the mediation settlement.

Treatment of Short Lines

With respect to the short lines, the mediation settlement is made applicable to all Class II and Class III roads represented in the Chicago hearings by the carrier joint conference committees; but not to those 18 short lines which did not join with the carriers in the national handling of the disputes. As to the latter the original recommendations, calling only for the establishment of a basic minimum wage of 40 cents per hour, shall continue to govern along with such other increases "as can be agreed upon through direct negotiations between management and the employees or which are arrived at through the future operations of the procedures of the Railway Labor Act." The Board is satisfied that the employees of these 18 short lines "should receive some increases in wages at this time," but it recalled what it said in the original report about the lack of sufficient evidence upon which to base a specific recommendation.

Commitments received from the railroad and labor representatives were appraised by the Board as being sufficiently firm to make the mediation agreement a settlement of the threatened strike. In that connection it told the President: "It will be necessary for the representatives of some of the labor organizations to submit the proposed settlement to meetings of their general chairmen for final approval. These meetings will be held in Chicago on December 4. However, your Emergency

Board has been assured that the representatives of these organizations who participated in the mediation negotiations will recommend the approval of the proposals contained in the mediation agreement. We are confident that the specific proposals for settlement of the railway dispute which we submitted to the parties will be formally approved without change by all the parties. The railroad officials have already accepted the mediation proposals." Upon making public the resume report, President Roosevelt said he trusted that it marked the end of that trouble we've been having for a couple of weeks. He added that he would later receive the Board's other two reports, and thanked the members very much on behalf of the government.

The Board wanted it "definitely understood" that its suggestion that the Express Agency be requested to join in the mediation settlement was made "simply because it believes that a balancing of all interests warrants it." Also, it called attention to the fact that R. E. A. "constitutes but a very small portion of the employer interests involved in this dispute."

Mediation a Break for Labor

Meanwhile, in concluding its discussion of the R. E. A. situation, the Board made it clear that labor would have got little if anything more than the original recommendations if the final stages of the case had remained a reargument-and-reconsideration proceeding rather than the mediation proceeding into which it was transformed after the close of the aforementioned November 28 and 29 reargument hearings. On that point the November 2 letter to the President said: "However, as we shall state in our official report which will be submitted to you tomorrow, there is a marked difference between what your Emergency Board has approved as a mediation settlement and what it would recommend on the basis of the formal record submitted to it by the parties at the long hearings in Chicago from September 16 to October 22, 1941, and at the two-day reargument in Washington, November 28 and 29, 1941. As the Board stated to the parties yesterday, it is still of the opinion that all of the major recommendations set forth in its report of November 5, 1941, are amply supported by the official record, and flow from an application to that record of the 'preponderance-of-evidence' test. Therefore, if the Railway Express Agency issue were to be determined on the basis of the formal record, the Board would reiterate the recommendation which it made in its report of November 5, 1941."

Similarly, Chairman Morse had emphasized the difference between a record report and a mediation report when he put the choice up to the parties at the close of the reargument. There he said: "The chair is about to close this hearing and in doing so he wishes the record to show the following remarks: Under the instructions from the President this Board is duty-bound to make a supplemental report to the President on Monday, December 1. That report may be on the argument or reargument which the parties have presented to the Board yesterday and today. That report may, however, under instructions from the President and with his authorization, be a report based upon mediation. Therefore this board here and now offers to these parties, and notifies them, that it will be available between now and Monday when it makes its report to the President to serve the parties in any way it can in mediation, to the end of attempting to reach a settlement of this dispute. The chairman quite agrees with Mr. Hay [Charles M. Hay, counsel for the five operating brotherhoods] and the other parties to this case when they have said, both in words and in spirit during the last two days, that it is of the utmost importance that this case be settled if there is any basis for settlement.

"It is the opinion of the chairman that there should not and that there must not, from the standpoint of the welfare of the parties but more particularly from the standpoint of the welfare of this country, be any railroad strike. Now I want the record to show very clearly that there are two approaches which this Board can make between now and the time that it makes its report to the President on Monday—one, an approach based upon the record which the parties have made before this Board to date, an approach which would result in a supplemental report, a report supplementing the report of November 5, 1941, that is, a record report. Or this Board can make to the President on Monday a report based upon mediation. The choice is a choice for the parties to make. The Board continues to sit as servants of the President, and it is willing to do what it can in the interest of the President and in the interest of the country. To help you gentlemen reach a settlement of this dispute without a paralyzing and, in the chairman's opinion, an unjustifiable railroad strike, we are at your pleasure."

Mediation Proposal Quickly Accepted

Hearing this, labor was not slow to make its choice. Up jumped Frank L. Mulholland, counsel for the 14 non-operating unions, to say that his clients were ready to mediate. He was followed in turn by Judge Hay who agreed on behalf of the five operating brotherhoods and J. Carter Fort, counsel for the Carriers Joint Conference Committee, who said that the railroads would also enter the mediation proceedings. Chairman Morse set the first meeting for 7:30 p.m. that evening (Saturday, November 29) at Washington's Raleigh Hotel which thereupon became the scene of what has been described as a "marathon mediation." The initial series of sessions were not recessed until long past midnight only to be resumed early Sunday morning. The meetings then continued through Sunday, Sunday night and Monday, the agreement being reached about 7 p.m. on that day. Thus had the parties followed the suggestion made by Judge Hay when he said in his reargument that "if necessary there should be absolutely sleepless eyes until Monday, unless this matter is settled before then."

The groundwork for mediation was laid by labor counsel in the reargument when they made their first public announcements of what labor expected. First Judge Hay said that he had not expected the operating groups to get the 30 per cent increase they demanded, but they did expect an increase of 15 per cent with a minimum increase of $1 a day. And Mr. Mulholland for the non-operating groups said that his clients expected 12½ cents an hour or $1 a day and more liberal vacations. Increases of those proportions would have cost the railroads about $400,000,000 a year, or some $135,000,000 more than those recommended in the original report. As noted above, the mediation settlement increases the Board's original recommendations by about $50,000,000. In this connection the Board told the President: "It should be said that neither side obtained all that it wanted out of the mediation proceedings, but it was gratifying to see that all of them recognized that when they went into mediation it was essential that they demonstrate a willingness to compromise their differences and adopt a give and take policy. Their attitudes and sincere efforts to reach a settlement which characterized all of their relations with the Board during mediation are a credit to themselves and their principals, and their final willing-

ness to join in the settlement represents a distinct service to their country in this time of great emergency."

Board Will Work on Formal Agreement

The resumé report to the President also revealed that the parties are continuing to work with the Board in the preparation of a formal mediation agreement which was expected to be signed before the end of this week. And if the parties are unable to reach an agreement within a reasonable time upon details of the vacation proposal, they have agreed to submit all disagreements to a member of the Board, or to some other third party, for final settlement.

As noted in last week's issue, page 921, the reconvening of the Emergency Board to hear labor petitions for reconsideration of the original recommendations was announced by President Roosevelt on November 25 after a series of White House conferences and direct-negotiation attempts had shown no promise of settling the controversy. The controversy arose out of labor's action rejecting the Board's recommendations; and the five operating brotherhoods had set a strike for 6 a.m. December 7, 8 and 9. The 14 non-operating unions had condemned the report, but made no specific strike threat until November 27, when their leaders instructed the general chairmen to prepare for a strike call.

The reargument proceeding opened on November 28 with Judge Hay speaking for the five operating brotherhoods. He asserted that the Board had not finished its job until it had found a basis for settlement of the controversy. He objected to the idea of a temporary increase and contended that the 7½ per cent increase recommended for the operating employees was inadequate. The judge was shocked when he read that figure, although he didn't expect the 30 per cent demanded by his clients. While he did not think it was proper to do so, he nevertheless realized that the Board was going to consider "what the traffic would bear" and thus he looked for increases for all employees amounting to $400,000,000 a year.

The "Aching Heart" of Judge Charles M. Hay

Throughout Judge Hay's argument was the implication that the union leaders needed to carry back to their constituents more than the board recommended if they were going to "hold their men by accomplishment." Seemingly his reference was to the alleged threat of the C. I. O. to organize railroad employees. The judge referred to the matter again in his rebuttal argument when he replied to railroad-counsel assertions that labor was trying to strong-arm the carriers. Denying that charge he went on to say: "You won't have to go far to find men to come in and represent labor and strong-arm the industry if you want it. You know what I'm talking about, and you shouldn't ask me in this public way to be more specific."

On the matter of preserving the Railway Labor Act, Judge Hay said that railway employees need no injunction—"it is their child. I say it with an aching heart that in my judgment the life of the Railway Labor Act is in your hands." He added that the unions were before the Board as friends of the Act, but "no branch of government can survive unless it be an agency of fairness and justice."

Mr. Mulholland warned that the non-operating unions were determined "to increase our basic rates regardless of an emergency." The temporary increases, he contended, would freeze the situation until the end of 1942, because if labor agreed to them they would be bound to continue under such agreement until the expiration date. In other words, Mr. Mulholland was contending that basic rates are more flexible than temporary increases; and he so insisted when his attention was called to the fact that labor preferred the temporary-deduction method in 1932. As to the measure of the increases which his clients were after, Mr. Mulholland did not mention the 12½ cents per hour figure until he was asked by Mr. Willits how much over the recommended nine cents was expected. In Mr. Mulholland's argument was embodied special pleas on behalf of employees of the short lines and of the Railway Express Agency.

Opening the argument for the carriers, Mr. Fort pointed out the recommendations of the Board were not in accord with what the railroads advocated. Yet he appeared in support of the report, which he said had been "acclaimed by the public generally far beyond any similar report." Mr. Fort asked whether the "real purpose" of the rehearing was not to try "to clothe with the sanction of what purports to be a government report the views of one of the parties." If the Railway Labor Act is to be used in that fashion, Mr. Fort said "let it die." Because he heard no claim that the Board's findings of fact were in error, Mr. Fort suggested that labor counsel were fortunate to have the gift of eloquence, "else they would have had to sit down as soon as they arose."

The increases recommended by the Board were pretty large, he went on, adding that they amount to seven times the average net income of the 1931-1940 period and 70 per cent of the aggregate 1931-1940 net. And, so far as Mr. Fort knows, they were rejected by the labor leaders without having been submitted to the employees for a vote. Also, in Mr. Fort's opinion, much of the "shooting" was about the differential in the increases recommended for the two groups. In that connection he cited Judge Hay's remark to the effect that the leaders of the operating unions would be heckled with "look what these other groups have over there."

"A Gun at Our Heads"

Mr. Fort was followed by W. T. Faricy, general solicitor of the Chicago & North Western, whose argument was mainly one in support of the Board's view that the increases should be temporary. In the course of such argument, however, Mr. Faricy referred to the strike threat, saying that no "sugar-coated phrases will change the fact that we're all here with a gun at our heads." He went on to ask how differences between labor and management should be adjusted if not by five men "appointed by President Roosevelt who certainly hasn't been unfriendly to labor."

"The railroads," the C. & N. W. general solicitor continued, "are a fighting industry. They believe that they can come back if these brotherhoods will exercise a little restraint. The railroads are like a prize-fighter who has been knocked down; and as he rises from the canvas and passes his corner his own seconds clip him with a stool." Judge Hay resented that, saying in his rebuttal that anyone making such a charge "forgets the history of the railroad industry, forgets that the men who have led in improvements are the railroad men and they do not deserve such maligning."

Carrier arguments on the vacations issue were presented by J. F. Johnston, assistant general counsel of the Seaboard Air Line, while C. A. Miller, vice-president and general counsel of the American Short Line Railroad Association, spoke for the 18 short lines which were not parties to the national handling of the wage case. A. M. Hartung, vice-president of the Railway Express Agency, appeared on behalf of that company, saying that increases recommended for R. E. A. employees were

"extremely liberal and should not be changed." Although they would place a "very great burden" on R. E. A., Mr. Hartung said that his company had accepted the report in accordance with the spirit of the Railway Labor Act.

Mr. Roosevelt Did Not Ask Unions to Accept the Board's Report

Following the aforementioned rebuttal arguments of Judge Hay, George M. Harrison, president of the Brotherhood of Railway Clerks, spoke on rebuttal for the 14 non-operating unions. It was significant, said Mr. Harrison, that the Board's report was released by the President without comment. [This statement carries the implication, apparently, that President Roosevelt did not even suggest to the unions that they ought to accept the recommendations of his board.—Ed.] Mr. Harrison also said that the failure of the unions he represented to set a strike date indicated only a different approach, but no "difference in determination" from the operating brotherhoods. The different approach, he intimated, came about as a result of "suggestions" arising in the course of telephone discussions with the White House.

The idea of bringing the Board back, Mr. Harrison said, was the President's. Mr. Harrison didn't ask for it—"quite the contrary, I advised the President not to do it." Also, the B. of R. C. president reminded the Board that it had offered to perform additional service, adding "you're here to help the President solve a problem."

Then Mr. Harrison proceeded to argue for larger increases than those recommended and against the idea of a temporary increase. In the former connection he contended that motor truck freight handlers in Chicago are being paid more than his members in similar railroad employment. The suggestion that the increases should be temporary amounted, as Mr. Harrison put it, to asking the railroad men "to scab on an orthodox principle of the organized labor movement." And he said: "That's not going to be done." The B. of R. C. president conceded that a rate increase would be undesirable; but he added that "certainly if everything else goes up, we'll have to go up with it, and we'll have to go through the painful process of disgorging when it's all over." Concluding, Mr. Harrison made a special plea on behalf of the Express Agency employees, as he had also done on behalf of the short-line employees.

Presentations of the parties closed with a brief state-

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"Railroaded"

"About all that can be said of the Administration-forced settlement of the railroad wage dispute is that, in respect to its cost to the companies, it might have been worse. If the first hasty estimates of the effect of the modified award are correct, it will increase the annual payroll by not less than $300 million; the estimated effect of the original award was an increase of $270 million.

"This newspaper has estimated the 1941 net income of all Class 1 railroads, after taxes and fixed charges, at $400 million. Wage increases at the inquiry board's original rates will have been charged into operating expenses for September, October and November, and at the higher revised rates for December. The effect of the modified award on payroll and net operating income for 1942 will depend on traffic volume, which is quite likely to expand. But obviously the award has cut from under the carriers the greater part of the financial ground they have gained since the acute phase of the recent depression.

"As to procedural method the outcome of this wage dispute could hardly have been worse. It was a railroaded settlement, given the specious appearance of a negotiated agreement when the President reconvened his fact-finding board (that action itself being an extra-legal step) and the board applied a sweatshop technique to the parties. Chairman Morse refers to the result as a mediation settlement, giving that expression a new and distorted meaning. For the Board's first recommendation was made as representing its deliberate judgment of what would constitute a fair settlement. It then repudiated its own judgment of the case by mediating an agreement on other terms.

"Whether or not President Roosevelt persuaded the board to this course of action, we do not know. But it is plain as a pikestaff that this course of action has destroyed whatever usefulness the railroad labor relations law may have had and that hereafter a fact-finding board appointed under it will command no great confidence as such.

"By consenting to an upward revision of the board's original recommendations the railroad companies have escaped the immediate seizure of their properties by the government. But the means of their present escape will only render government ownership the more likely in the longer future, for unless the railroads can relay securely the foundation of their financial strength transportation as a private industry is doomed.

"An increase in freight rates—apart from its sinister relation to the inflation threat—would do little or nothing to avert this doom, inasmuch as organized rail labor recognizes no necessity of a supporting return on private capital in the rails. In the present case the rail unions have successfully demonstrated their power to set aside the findings of a statutory fact-finding board with no interference from the government—on the contrary, with governmental encouragement.

"The now discredited railroad labor relations law did embody a fairly well defined principle of adjustment, namely, that an impartial body should after thorough inquiry report upon the facts bearing upon a specific labor dispute and propose a settlement it deemed fair. The result thereafter was to be trusted to the force of public opinion. But public opinion requires leadership and expression through a voice speaking with the authority of all the people, something which has been wholly absent in the present case.

"Hence the country drifts heedlessly toward government ownership of the railroads, a debilitating appendage to democratic government which it would not deliberately choose to have."

From the Wall Street Journal.

ment by Mr. Faricy in reply to Judge Hay, and the aforementioned remarks of Chairman Morse. In a couple of hours the mediation meetings were under way. After the all-night series of sessions one veteran labor leader was heard to remark that he had been in "many battles and sham battles, but this one takes the cake."

Eastman's Views on Buffalo-Detroit Trucking

WHILE not presuming to "proffer any advice," Chairman Eastman of the I. C. C. nevertheless let a Canadian audience know on November 29 that, in his opinion, the Dominion might well let U. S. trucks ply Ontario's highways under bond between Buffalo and Detroit. The occasion of this revelation was a speech at a meeting of the Canadian Automotive Transportation in Toronto. Mr. Eastman also discussed the question of fees levied on commercial vehicles for the use of the highways. Said he:

"When I had the temporary post of Federal Co-ordinator of Transportation some years ago, I undertook to find out the facts in regard to this matter with respect to all of the carriers, and it proved to be a colossal job. . . . It is often said that the trucks and buses pay nothing for the use of the public roads. The railroads made no such claim to me. They conceded that the motor carriers do pay, in special taxes, fees, and the like, a large amount for this purpose. Their claim was that it was not nearly enough. I found that in the aggregate the motor carriers were paying for the use of the roads not far from an adequate amount. To this finding the railroads took violent exception. The question has now been committed for consideration, along with some other transportation questions, to a special board of investigation and research which was created by the Transportation Act of 1940. While I am fully persuaded that my finding was right, I am glad that the matter is to be reviewed by this new board.

"We look forward to the day, and are trying to hasten it, when there will be better co-ordination between the various forms of transportation, and less waste motion. Motor carriers can do some things much better than the railroads, and vice versa, and the same is true of the water carriers. Already our railroads are using motor vehicles very extensively in their own operations. The problem is to fit the pieces of the whole transportation machine together so that it can function with maximum economy and efficiency. Of course that is one of those ideals that can only be approached, and the approach takes time. We hope that our regulation of rates will work in that direction, but the general question of the relative economy and fitness of the different types of carriers for particular kinds of service is also one of the questions to which the new board of investigation and research has been directed to give attention."

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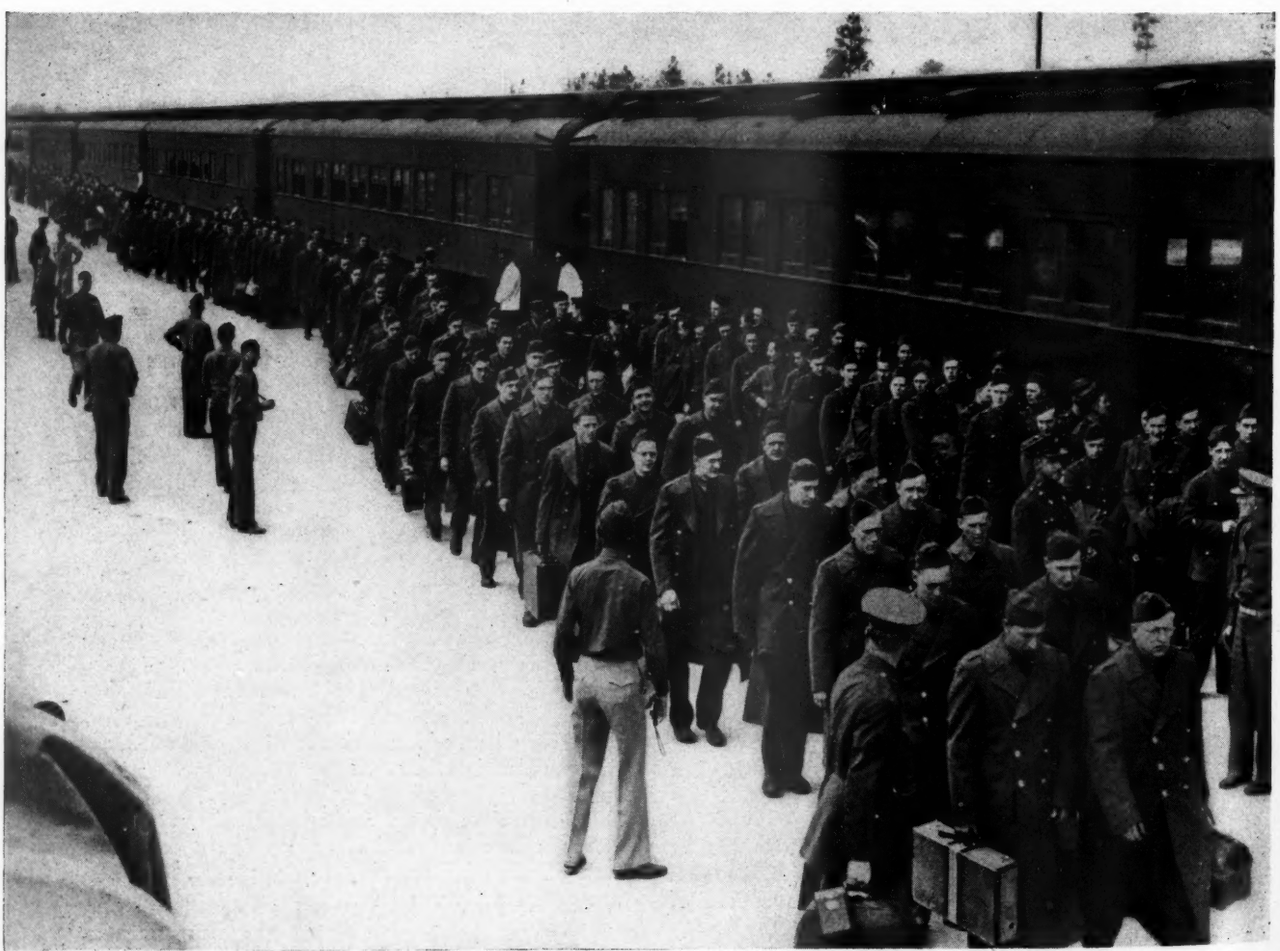


Photo by U. S. Army Signal Corps

Selectees From Michigan and Wisconsin Arrive at Camp Livingston, La.

NEWS

Program Limits Equip. Designs

Pelley outlines plan to which railroads are committed with O. P. M.

As a measure of conserving metals needed in the interest of national defense, J. J. Pelley, president of the Association of American Railroads, has announced for the railway industry a program which will limit the construction of new locomotives and freight cars to certain designs now in use and facilitate the allocation of steel and other materials to be used for such construction and repair purposes. The major points of the plan to which the railroads are committed with the Office of Production Management are:

1—Construction of new box, hopper, gondola, and flat cars will be limited to certain designs now in use.*

2—New locomotive construction will be limited to existing designs where patterns, dies, and engineering data are already available.

3—Substitution of other materials so far as possible for scarce metals in locomotive and freight-car construction.

4—Use of carbon steel rather than alloy steel in locomotive boiler construction.

5—Use of steel plates and steel sheets 48 in. wide in the construction of new freight cars instead of sizes now largely used ranging up to 119 in. in width.

Under the arrangement, car and locomotive builders will interchange plans, engineering data, and patterns which will expedite the building of railroad equipment and increase the capacity of facilities used for that purpose.

Under the agreement the use of nickel steel for locomotive bed castings, axles and rods and other moving parts both for new construction and repairs and for steel plates and rivets for repairs on existing locomotives constructed of nickel steel will continue.

In discussing locomotive needs, Mr. Pelley said: "The defense program now contemplates using facilities of the locomotive builders for production of defense material and, in order that consideration may be given to reserving sufficient capacity to meet requirements of the railroads' 1942 locomotive building program, information is desired covering requirements of each railroad.

"The suggested method contemplates an analysis of each division or district for each kind of power, freight requirements to be determined on the basis of gross ton-miles and tractive force, passenger requirements on basis of scheduled and extra movement, switch requirements on basis of assignments, and company service locomotive requirements on basis of assignments."

The railroads are also requested to inform Mr. Pelley not only as to the number of locomotives now on order, but also as to the number of additional ones which in their opinion will be necessary to meet transportation demands next year on the basis of present indications and present operating methods.

The railroads have also been asked to give attention to the possibilities of obtaining greater utilization of their locomotives by further increasing the length of runs; expediting the servicing at principal and intermediate terminals, reducing layover time so as to insure that none is allowed to stay at terminals longer than necessary; avoiding the sending of locomotives to enginehouses except for necessary repairs; centralizing running repair work, and reducing repair time by having sufficient force on hand at all times to return locomotives to service as expeditiously as possible.

* The proposed designs of freight cars were described in an article beginning on page 789 of the November 15 Railway Age.

Traffic Executives Meet in Chicago

Traffic executives of the railroads met in Chicago on December 3 and 4 to discuss ways and means of boosting revenues to meet increased wages and operating costs, with A. F. Cleveland, vice-president of the Association of American Railroads, presiding. Increases in both freight and passenger rates were under consideration. A committee was appointed to prepare proposals which will later be acted upon by the Association's directors. Among the suggestions made was a blanket increase of 10 per cent in freight, passenger and suburban rates.

The Canadian Roads in October

For October the Canadian Pacific reported gross revenues at $21,576,652 and operating net at $5,937,887—representing increases of 27.7 per cent and 8.5 per cent respectively. For the ten months gross totaled $180,034,146 (29.7 per cent above 1940) and operating net was $35,665,558 (up 38.4 per cent).

The Canadian National in October had operating revenues totaling $28,760,510 (up 25 per cent) and operating net was $6,038,729 (an increase of 15 per cent). For the ten months, C. N. R. operating net totaled $54,628,055 (an increase of 64.5 per cent) and gross was $249,072,521 (up 23.7 per cent.

Would Permit Big Truck Combine

Examiner belittles objections of justice department in okaying merger

Common Carrier truck operations from Canada to the Gulf under one management and ownership may soon become a reality if the Interstate Commerce Commission approves a recommended order of its Examiner Vernon V. Baker, section of finance, Bureau of Motor Carriers, which would permit eight large common carrier truck lines operating along the Atlantic seaboard from Florida to Maine to merge their properties into one company, to be known as Associated Transport, Inc. All of the companies involved were among the group of 56 highway carriers whose plan to consolidate into a combine capitalized at $22,543,656, under the name of Transport Company of New York, was rejected by the commission as noted in the *Railway Age* of January 4, 1941, page 120.

The eight companies which will become one, if Examiner Baker's report is approved, are: Horton Motor Lines, Inc., of Charlotte, N. C.; Barnwell Brothers, Inc., of Burlington, N. C.; Southeastern Motor Lines, Inc., Bristol, Va.; Transportation, Inc., Atlanta, Ga.; McCarthy Freight System, Inc., Taunton, Mass.; Consolidated Motor Lines, Inc., Hartford, Conn.; M. Moran Transportation Lines, Inc., Buffalo, N. Y.; and Arrow Carrier Corporation, Paterson, N. J.

Besides permitting Associated Transport to acquire these companies through the purchase of their capital stock, Examiner Baker would also authorize it to issue 54,049 shares of preferred stock and 860,411 shares of common stock, having a par value of $100 and $1 a share, respectively, the proceeds to be used to purchase the stock of the trucking companies to be acquired and for other corporate purposes.

The merger plan provides that the contracting stockholders of each of the companies of which control would be acquired would exchange their stock in such company for capital stock of Associated Transport in an amount to be determined as follows: Preferred stock having a par value equal to 80 per cent of the net worth, as of April 30, 1941, of the particular company involved, exclusive of any increase therein resulting from application of lower depreciation rates; and common stock of a par value equal to an amount obtained by deducting from the company's net profit

(*Continued on page 969*)

All-Commodity Rates Found OK

But I. C. C. splits on issue with Alldredge insisting freight be classified

All-freight or all-commodity rates came in for considerable pro and con discussion in separate expressions filed by individual commissioners in connection with the Interstate Commerce Commission's report on further hearing in the proceeding involving the all-freight rates which have been in effect since May 15, 1940, from Western points to Pacific Coast terminals and interior points, including Salt Lake City, Utah. The decision is in I. & S. No. 4648, and the majority report by Commissioner Aitchison affirms the commission's previous finding that the rates were not shown to be unlawful.

A separate concurring expression came from Chairman Eastman, while Commissioners Porter, Alldredge and Johnson each filed a dissent and Commissioner Rogers joined in Mr. Alldredge's expression. Thus it was a seven-to-four decision which the report shows was reached on October 13, although it was not made public until November 26.

Considering the matters which were the subject of the further hearing, the majority report discussed first the application of the all-commodity rates. They are $2.75 per 100 lb. from trans-continental Groups D to N, inclusive, to Pacific Coast terminals, Seattle, Wash., to San Diego, Calif., inclusive, and to interior points; also for ocean-rail application by way of Gulf ports from eastern steamship piers at New York to California points; $2.05 from Chicago and $2.01 from St. Louis, Mo., and points grouped therewith to Salt Lake City, Utah. The all-commodity rates from Chicago and St. Louis to the Pacific Coast are 49 and 50.4 per cent, and to Salt Lake City 51.4 per cent, respectively of the respective first-class rates; but "more than two-thirds" of the freight (mainly such normally-l. c. l. traffic as light and bulky manufactured goods) which now moves under the all-commodity rates "would move on commodity rates which were established to meet the competition of intercoastal water lines through the Panama Canal." Also, "most, if not all, of the all-commodity freight is transported for mail-order houses and freight forwarders."

The stated purpose of all-commodity rates was to meet competition and "to modernize the rail rates in harmony with the present-day methods of merchandising." In the latter connection there was shipper evidence that the use of the rates has grown until they have had "an important effect upon the method of merchandising," being in line with the trend "toward smaller units of sale and rapid turnovers." As to the effect on the revenues of the railroads, the majority found it reasonable to assume from the evidence that the all-commodity rates would have but little effect on carload revenues, and that whatever reduction in revenue occurred would be on l. c. l. In the latter connection, however, the commission cited economies which would come with the use by shippers of all-commodity rates instead of l. c. l. service. Shippers using all-commodity rates load and unload cars, and the costs to the railroad of storedoor and platform services are eliminated while the cost of billing and accounting is reduced.

Other issues raised at the further hearing included proposals that the all-commodity rates should be graduated to reflect distance and that they should be established eastbound as well as westbound. Also, that there should be graduation based on the cubical capacity of cars. These were dismissed with brief discussion by the majority report as it proceeded to examine the possibility of a more extensive use of class rates if such rates were revised. In the latter connection it said that the transcontinental class rates "in practice apply mainly to non-competitive traffic"; and they "cannot be revised so as to meet the competition and at the same time not be lower than necessary on non-competitive traffic."

Because the dissenting opinions raised and discussed "certain questions which are of large importance and which we shall undoubtedly be called upon to consider in future cases in one form or another," Chairman Eastman wrote his concurring expression to indicate briefly "the controlling reasons which led me to vote for this particular report." Meanwhile he did not attempt to deal exhaustively with such questions "of large importance" on which his mind is "by no means closed." The chairman then proceeded to set forth briefly the elementary principles of the railway rates as they have developed under the class rate structure and the set-up of commodity rates with freight moving "much more largely on commodity rates than on class rates."

Mr. Eastman thinks that "the extent to which the weight given to value has made possible the publication of low rates for low-grade freight has been exaggerated, for often these low rates, by reason of low cost of service, are very remunerative." However, the chairman went on, "there is no doubt that it has made the rates on many commodities considerably higher than cost of service alone could have justified; and this is a fact which has nourished the competition which the railroads have encountered as motor transportation has developed."

The mere fact that mail order houses and freight forwarders are chiefly those who have occasion to ship carload mixtures and make use of all-commodity rates, in Mr. Eastman's opinion, "does not in itself prove that they reap an unlawful advantage from such rates." On the question of undue preference and prejudice as between shippers, the chairman has an open mind, but evidence coming to his attention has not yet led him to conclude, "even by process of deduction or inference," that all-commodity rates in general "are productive of unlawful injury." Previously he had said that the contention that large shippers are preferred over small shippers "has come rather from within than from without the commission." The thought in that

(*Continued on page 970*)

10 Mo. Net Income Was $408 Million

Net railway operating income was $846,824,141, a 3.79 per cent return

Class I railroads in the first 10 months of this year had an estimated net income, after interest and rentals, of $408,625,472, as compared with $100,932,114 in the corresponding period last year according to the Bureau of Railway Economics of the Association of American Railroads. The 10-months net railway operating income, before interest and rentals, amounted to $846,824,141, a 3.79 per cent return, as compared with $532,132,247 or 2.4 per cent in 1940 and $759,038,636 or 3.43 per cent in 1930.

The October net income was $52,952,717 compared with $42,653,900 in October, 1940, while net railway operating income for that month was $93,657,126, a 2.68 per cent return, compared with $87,638,354 or 2.53 per cent in the same month of 1940, and $110,923,349 or 3.35 per cent in October, 1930.

Total operating revenues in the 10 months of 1941 were $4,410,127,991, compared with $3,540,565,765 in the same period in 1940, and $4,512,318,485 in the 10 months of 1930, an increase of 24.6 per cent in 1941 above 1940, but 2.3 per cent below 1930. Operating expenses amounted to $2,976,017,759, compared with $2,564,506,471 in the corresponding period in 1940, and $3,340,656,001 in the same period in 1930—16 per cent above the former, but 10.9 per cent below the like period in 1930.

Class I roads in the 10 months paid $474,142,259 in taxes, compared with $335,415,618 in the same period in 1940, and $303,226,866 in the same period in 1930. For October alone, the tax bill amounted to $49,928,458, an increase of $11,703,609 or 30.6 per cent above October, 1940. Twenty-six Class I roads failed to earn interest and rentals in the 10 months, of which eight were in the Eastern district, two in the Southern district, and 16 in the Western district.

Gross for October totaled $517,604,959 compared with $413,712,272 in October, 1940, and $477,966,434 in October, 1930. Operating expenses totaled $361,501,715 compared with $276,780,299 in the same month of 1940, and $322,443,081 in October, 1930.

Class I roads in the Eastern district in the 10 months had an estimated net income of $226,912,483 compared with $110,906,690 in the same period last year. Those same roads had a 10-months net railway operating income of $412,089,669, or 3.93 per cent compared with $298,814,150 or 2.89 per cent in the same period in 1940, and $388,453,595 or 3.83 per cent compared with 1930.

Gross in the Eastern district for the 10 months totaled $2,187,788,110, an increase of 23.3 per cent compared with the same period in 1940, but a decrease of 2.3 per cent compared with the same 10 months in 1930; operating expenses totaled $1,467,970,935, an increase of 17.6 per cent above

1940, but a decrease of 11.3 per cent under 1930.

The Eastern district estimated net income for October was $23,199,760 compared with $21,072,612 in October, 1940; net railway operating income amounted to $41,346,701 compared with $39,845,816 in October, 1940, and $47,274,716 in the same month of 1930.

Class I roads in the Southern district in the 10 months had an estimated net income of $60,511,231 compared with $4,354,771 in the same period last year. Those same roads had a net railway operating income of $115,750,660, or 4.42 per cent compared with $60,360,532 or 2.3 per cent in the same period of 1940, and $73,164,143 or 2.63 per cent compared with 1930. Operating revenues in the Southern district in the 10 months totaled $571,676,215, an increase of 28.2 per cent compared with the same period in 1940, and an increase of 4.8 per cent compared with the same 10 months in 1930; operating expenses totaled $384,032,810, an increase of 14 per cent above 1940, but a decrease of 10.3 per cent under 1930.

October's estimated net income in the Southern district was $5,313,920 compared with $4,045,910 in October, 1940; net railway operating income amounted to $11,301,536 compared with $9,990,859 in October, 1940, and $10,146,795 in the same month of 1930.

Class I roads in the Western district in the 10 months had an estimated net income of $121,201,758 compared with a deficit of $14,329,347 in the same period last year. Those same roads had a net railway operating income of $318,983,812 or 3.46 per cent compared with $172,957,565 or 1.89 per cent in the same period in 1940, and $297,420,898 or 3.21 per cent compared with 1930. The 10-month's gross in the Western district was $1,650,663,666, an increase of 25.1 per cent compared with the same period in 1940, but a decrease of 4.4 per cent compared with the same 10 months in 1930. Operating expenses totaled $1,124,014,014, an increase of 14.7 per cent above 1940, but a decrease of 10.6 per cent under 1930.

For October the Class I railroads in the Western district had an estimated net income of $24,439,037 compared with $17,535,378 in October, 1940; net railway operating income amounted to $41,008,889 compared with $37,801,679 in October, 1940, and $53,501,838 in the same month of 1930.

CLASS I RAILROADS—UNITED STATES

	1941	1940	1930
Month of October			
Total operating revenues	$517,604,959	$413,712,272	$477,966,434
Total operating expenses	361,501,715	276,780,299	322,443,081
Operating ratio—per cent	69.84	66.90	67.46
Taxes	49,928,458	38,224,849	31,791,258
Net railway operating income (Earnings before charges)	93,657,126	87,638,354	110,923,349
Rate of return on property investment	2.68	2.53	3.35
Net income, after charges (estimated)	52,952,717	42,653,900	*.....
Ten Months Ended October 31			
Total operating revenues	$4,410,127,991	$3,540,565,765	$4,512,318,485
Total operating expenses	2,976,017,759	2,564,506,471	3,340,656,001
Operating ratio—per cent	67.48	72.43	74.03
Taxes	474,142,259	335,415,618	303,226,866
Net railway operating income (Earnings before charges)	846,824,141	532,132,247	759,038,636
Rate of return on property investment	3.79	2.40	3.43
Net income, after charges (estimated)	408,625,472	100,932,114	*.....

* Net Income not reported monthly prior to 1932.

October Locomotive Shipments

October shipments of railroad locomotives totaled 102 as compared with 79 in September and 57 in October, 1940, according to reports from builders to the Department of Commerce's Bureau of the Census. The total for this year's first 10 months was 785 including 110 steam, two electrics, 574 Diesel-electrics and 46 of other types for domestic service and 35 steam, 15 electrics and three Diesel-electrics for export; in the first 10 months of 1940 shipments totaled 431 locomotives including 49 steam, 321 Diesel-electrics and 17 of other types for domestic service and 43 steam and one gasoline-mechanical for export.

Unfilled orders at the end of October totaled 921 locomotives as compared with 817 at the close of September and 269 as of October 31, 1940.

Data supplied by the Car Service Division, Association of American Railroads, on locomotive building in railroad shops show that two locomotives (both steam) were thus produced in October, as compared with a like output in September and 16 locomotives (three steam and 13 "gas or Diesel") in October 1940. In the first 10 months of this year railroad shops produced 14 locomotives, including 12 steam and two electrics, as compared with 72 including 39 steam, 20 electrics and 13 "gas or Diesel" in the corresponding period last year. As of November 1 railroad shops had unfilled orders for 64 locomotives including 44 steam and 20 electrics.

a.c.f. Berwick, Pa., Employees Pledged Against Strikes

Employees in the Berwick, Pa., plant of the American Car & Foundry Co. recently put themselves on record with their local S. W. O. C. Union, pledging themselves against strikes. Placards have been posted at strategic points throughout the plant, bearing the inscription "S. W. O. C. Union in This Plant is Pledged Against Strikes." The Berwick plant of the American Car & Foundry Co. was the first civilian builder to engage in the building of light combat tanks. Through uninterrupted work on the part of its employees the company has been able to arrive at a production figure of more than 400 tanks a month and in the early part of October had completed delivery of its 2000th tank to the U. S. Government. More than 500 of these light tanks produced at Berwick are reported to be "packing a wallop" in the battle now raging in Libya.

Derailments on the A. C. L.

The southbound "Tamiami Champion" of the Atlantic Coast Line was derailed near Hortense, Ga., on November 27, resulting in the death of one passenger and the injury of 13 others. On the same day, near Dover, about ten miles from Tampa, Fla., the southbound Tampa section of the "Havana Special", was derailed, but without fatalities.

Nebraska Railroads Can Handle Intrastate Shipments by Truck

A truck-rail shipment plan which will release cars from short-haul service for defense needs, has been approved by the Nebraska State Railway Commission. Approval of the plan gives the Chicago, Burlington & Quincy, the Missouri Pacific and the Chicago & North Western authority to transport their intrastate shipments by truck when the shipper has no objection. The three railroads own and operate trucks.

Father Welcomes Son to Pension Roll

A pensioned Pennsylvania conductor, nearly 89 years of age, welcomed his 65-year-old son, also a conductor, to the pension roll of that railroad at Logansport, Ind., on December 1. William Henry Hays, the father, and Rutherford Birchard Hays, the son, were both named for former Presidents of the United States. The former was employed by the Pennsylvania from 1885 to 1923 and the latter since 1902.

Brotherhood of Railway Clerks to Discuss Strike Against R. E. A.

The general chairmen of the Brotherhood of Railway Clerks will meet in Chicago on December 8 to discuss a nationwide strike against the Railway Express Agency. The action follows the Agency's refusal to accept the recommendation of the President's emergency board for a wage increase of 10 cents an hour. The original demand of the Express employees was for 30 cents an hour.

Would Give Soldiers Free Transportation

Representatives D'Alesandro, Democrat of Maryland, and Rankin, Republican of Montana, respectively have introduced in the House H. R. 6096 and H. R. 6152, bills which would provide for free transportation of men in the armed services while on furlough. Representative D'Alesandro's bill would provide free transportation home during furlough for enlisted men and selectees in the Army, Navy, and Marine Corps; while Representative Rankin's measure would limit the free transportation home during furlough to noncommissioned officers and other enlisted

men on active military service in the land forces of the country.

Both measures provide that certificates would be issued to members of the armed forces which would be redeemable by the Treasury for the amount of the fare applicable to such passengers. Another similar measure introduced by Representative Edwin Arthur Hall, Republican of New York, is pending in committee.

Santa Fe Motor Carriers to Merge

The Santa Fe Trail Transportation Company, a wholly-owned motor carrier subsidiary of the Atchison, Topeka & Santa Fe, has asked the Interstate Commerce Commission for authority to merge its property with that of the Santa Fe Trails of Illinois, one of its wholly-owned subsidiaries.

Transportation of Explosives

Division 3 of the Interstate Commerce Commission has issued an order in Docket No. 3666 promulgating certain new and amended regulations for the transportation of explosives and other dangerous articles by rail in freight, express and baggage services, and by water and highway to be effective as of February 1, 1942.

Freight Car Loading

Loadings of revenue freight for the week ended November 29 totaled 866,189 cars, the Association of American Railroads announced on December 4. This was an increase of 66,803 cars, or 8.4 per cent, above the preceding week; an increase of 137,664 cars, or 18.9 per cent, above the corresponding week last year and an increase of 180,693 cars, or 26.4 per cent, above the comparable 1939 week.

Loading of revenue freight for the week ended November 22, which included the Thanksgiving holiday, totaled 799,386 cars. This was a decrease of 84,453 cars or 9.6 per cent below the preceding week, but an increase of 65,898 cars or nine per cent, above the corresponding week in 1940, and an increase of 126,273 cars or 18.8 per cent, above the same week in 1939. The summary for that week, compiled by the Car Service Division of the Association of American Railroads follows:

Revenue Freight Car Loading

For Week Ended Saturday, November 22

Districts	1941	1940	1939
Eastern	159,879	152,349	143,911
Allegheny	172,767	157,385	149,909
Pocahontas	39,998	46,386	44,247
Southern	119,779	107,192	96,598
Northwestern	119,734	103,612	83,844
Central Western	125,217	112,129	105,454
Southwestern	62,012	54,435	49,150
Total Western Districts	306,963	270,176	238,448
Total All Roads	799,386	733,488	673,113
Commodities			
Grain and grain products	41,022	33,323	35,997
Live stock	13,201	15,819	13,779
Coal	130,243	141,958	131,277
Coke	11,638	12,199	11,357
Forest products	39,725	39,083	33,169
Ore	55,027	40,285	23,923
Merchandise l.c.l.	141,257	140,219	142,572
Miscellaneous	367,273	310,602	281,039
November 22	799,386	733,488	673,113
November 15	883,839	745,295	766,987
November 8	873,585	778,318	781,588
November 1	894,739	794,797	801,108
October 25	913,605	837,657	829,358
Cumulative Total, 47 Weeks	38,372,915	32,911,414	30,664,441

In Canada.—Carloadings for the week ended November 22 totaled 67,053, as compared with 67,940 in the previous week and 63,088 in the corresponding week last year, according to the tabulation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Nov. 22, 1941	67,053	31,359
Nov. 15, 1941	67,940	32,751
Nov. 8, 1941	69,572	32,616
Nov. 23, 1940	63,088	27,145
Cumulative Totals for Canada:		
Nov. 22, 1941	2,888,024	1,404,410
Nov. 23, 1940	2,534,604	1,160,243
Nov. 25, 1939	2,312,844	1,008,766

Alco Pioneers New M-3A1 Tank

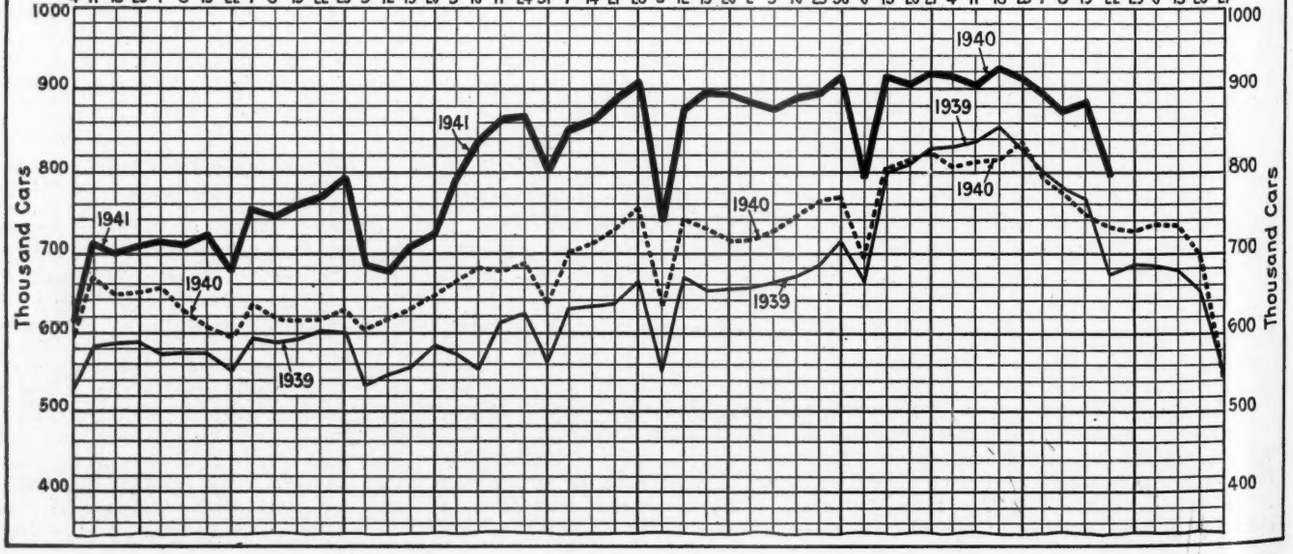
The first American medium tank with a cast steel hull will be delivered shortly to the U. S. Army Ordnance Department by the American Locomotive Company. The tank, known as the M-3A1, will serve as a "pilot" model for other builders and will eventually supplant the M-3 now being built by various industrial concerns. Differing only slightly from the M-3 medium unit, which has a riveted upper and lower hull, the new model will have a cast steel upper hull—roughly the section above the caterpillar treads.

Chief advantages of the casting are its rounded contours, which will deflect enemy shells better than the flat surfaces of riveted construction; increased speed of assembly, and lessened machining requirements, thereby releasing vital machine tools for other government work. The new tank will have the same armament as the M-3. The American Locomotive Company, which also manufactures the earlier model, will begin line production of the M-3A1 at Schenectady, N. Y., within a few weeks. The company is also planning to build the first industrial model with a Diesel rather than a gasoline engine.

Atlantic Port Differentials on Ex-Lake Grain for Export

Passing upon a complaint of the Port of New York Authority, the Interstate Commerce Commission, Division 3, has found that the differential of one-half cent per 100 lb. in the rates on ex-lake grain from Buffalo, N. Y., and Erie, Pa., to New York, for export, over the rates to Philadelphia, Pa., and Baltimore, Md., is not unduly prejudicial to New York.

Other findings are that the summer rate on ex-lake grain from Buffalo and Erie to Baltimore, for export, is not below a reasonable minimum rate; that free storage time of 10 days at New York on export grain as compared with 20 days free time at Philadelphia, Baltimore and Norfolk, Va., is not unduly prejudicial to New York; and that the rates on ex-lake grain from Toledo, Ohio, to New York, for export, are unduly prejudicial to New York and unduly preferential of Philadelphia and



Baltimore to the extent that the rates to New York exceed the rates to the other two ports by more than 1.5 cents per 100 lb.

Commissioner Johnson, concurring, approved the majority report but he did not wish to be understood as approving "lower rail rates in summer during the season of open navigation than those maintained during the winter months when the waterways are closed to navigation." The proceeding was docketed as No. 28466.

Railway Men to Discuss Material Requirements

Leading representatives of the railroad industry have been asked to meet December 12 with officials of the automotive, transportation and farm equipment branch of the Division of Civilian Supply to discuss material requirements for 1942. Andrew Stevenson, acting chief of the branch, has sent invitations to the conference to 88 railway executives, passenger and freight car builders, locomotive builders, and railroad supply manufacturers.

The meeting will be held at 10 a. m. on December 12, in Room 5055 of the Social Security Bldg., and admittance will be by invitation only, it was said. Mr. Stevenson will preside.

B. & O. Chicago-N. Y. Locomotive Goes Through Open Bridge

The first unit of the Diesel-electric locomotive of the Shenandoah, Chicago-New York passenger train of the Baltimore & Ohio, ran through an open bridge and into the Indiana Harbor Ship Canal at East Chicago, Ill., on December 3. The engineman was killed but no passengers were injured. The train was moving at a speed between 30 and 40 m.p.h. when it ran through a block signal that was set against it and onto a derail which derailed the locomotive and 6 of 13 cars. The first unit of the locomotive came to rest with its nose submerged in the canal. According to an observer, the wheels of the locomotive were spinning backward as it reached the bridge, indicating that the engineman had reversed the power. The engineman, 72 years of age, was one of the oldest in service and had made hundreds of trips over this division, on which he had been employed for 23 years. At the time of the accident, he was alone in the cab.

Magazine Editors Meet at New Orleans

The American Railway Magazine Editors Association held its annual meeting at New Orleans, La., on November 14 and 15. Major Frost, public relations officer for the War Department, was the speaker at the banquet. Enroute to the meeting, the members paid tribute to the actual Casey Jones (about whom the legendary popular song was written), the Illinois Central stopping the Panama Limited at Vaughan, Miss., while wreaths were placed at the stop where Casey Jones was killed.

Officers elected for the ensuing year are: President, J. L. James, assistant editor of the Louisville & Nashville Employees' Magazine; first vice-president, Ernest Black, assistant editor of the Reading Magazine; second vice-president, R. R. Horner, editor of the Norfolk & Western Magazine; and secretary-treasurer (re-elected) M. W. Jones, assistant editor of the Baltimore & Ohio Magazine.

Retirement Board Operations in October

Benefits under the Railroad Retirement Act in October amounted to $10,550,629, bringing total payments from the beginning of operations to $471,961,413. During this period the Railroad Retirement Board certified 150,814 employee annuities, 48,543 pensions, 3,096 survivor annuities, 5,963 death benefit annuities, and 47,011 lump-sum death benefits.

Employee annuities in force at the end of October totaled 121,798, with a monthly amount payable of $8,011,426. The average monthly payment was $65.78.

The balance in the railroad retirement account at the end of October was $113,012,243. Administrative expenses for the four months July-October amounted to $1,003,330, leaving a balance of $2,146,669 for the remainder of the fiscal year. Payments through October 31 and obligations as of that date to employers for collecting records of prior service and earnings amounted to $3,397,909, leaving a balance of $5,602,090 in the special appropriation of $9,000,000 for this work.

Claims under the Railroad Unemployment Insurance Act totaled 36,891 in the four-week period from September 27 to October 31, and benefits certified amounted to $693,879, of which $690,305 was for claims in the current benefit year. The average certification on claims with a maximum of 10 compensable days was $22.96.

The number of applications for certificate of benefit rights increased in October for the first time since the beginning of the benefit year, reflecting the first seasonal layoffs of maintenance of way employees in the north and northwest. The weekly average for October was 1,194, as compared with 986 in September.

Commission to Speed Abandonment Cases

Acting in the hope of speeding up the now-lengthy abandonment procedure, Division 4 of the Interstate Commerce Commission has issued an order to be effective January 6, 1942, which will make several changes in the requirements now necessary to secure the abandonment of a line, the most important of which is the one allowing the carriers to file the return to questionnaire at the same time that they file the original application. Heretofore, the return to questionnaire was not filed until the application had been received by the commission and the applicant had published notices of the action in local papers in the territory affected. The new order does not require the questionnaire to be filed simultaneously, but simply permits it; however, it must be filed not later than six weeks after the notices have been run in the local papers.

Other changes include the permission for the carrier to supply passenger and freight statistics for only the past two years instead of the now-required five years, with the stipulation that it will furnish figures for five years, if so requested by the commission; and a requirement that notices of the abandonment be posted in the carrier's stations on the line to be abandoned. If there are no stations on the line, then the notices shall be posted on the nearest agency station on the applicant's line.

The new regulations also require that the original application and 10 copies for the use of the commission, and two additional copies for each state in which is situated any part of the line proposed to be abandoned, shall be filed with the secretary of the commission.

The changes in procedure have been under consideration for some time, but were promulgated at this time in the hope that many of the smaller abandonments could be materially speeded up. As a result, the steel to be reclaimed from the lines can thus be more readily made available for the requirements of national defense.

Contracts for Temperature-Control Services

Following through on its plan to have railroad and express company contracts for so-called "protective" (i. e., control of temperature) services set up on the so-called unit-price basis the Interstate Commerce Commission has sent to all respondents in the Ex Parte No. 137 investigation of the matter a list of the units of service for which it contemplates that the contracts shall show a separate charge. The contracts involved are those entered with refrigerator car lines and others for protection of freight against heat or cold, i. e., refrigeration and heater services.

The list of units of service was accompanied by a letter from Chairman Eastman who recalled that Division 3's report in the case had indicated the commission's desire that the contracts should state a specific charge for each item of service performed. After the report was issued, the commission held conferences with interested parties; and the list of the units of service is the result. The list breaks down refrigeration service into ice; salt; supervision; repairs to refrigerating devices; repairs of damage caused by top or body ice; precooling of a refrigerator car—each precooling; and car curtains—per car equipped. The units of heater service are: Car heaters—per inspection incident to heater service; heater fuel—per inspection incident to heater service; servicing of heaters—per inspection incident to heater service; supervision—per inspection incident to heater service; papering cars—per car papered for protection against cold; supervision—per inspection, whether or not ventilating devices are manipulated.

"All parties concerned," Mr. Eastman said, "are requested to carefully observe these units in drafting the new contracts that are to be submitted to the commission on or before January 1, 1942, in accordance with the reports in the proceeding, or that may be submitted at any time hereafter. It is contemplated that each contract shall show a specific charge for each unit of service that is to be performed under its terms. In no instance are two or more units to be combined and a single charge

shown therefor. If in any instance a carrier requires a service not embraced by one of the units shown in the list, it should be provided for in specific terms and not combined with any one of the units indicated."

With respect to loss and damage claim expense, the commission's statement says that its findings to the effect that such amounts are not part of the cost of protective service should be adhered to. It also said that "When car lines are to perform the services of investigating and handling of claims, or the inspection of lading at destination, and when it is desirable to pass losses resulting from claim payments through car-line company accounts, contractual provisions relating thereto should be clearly set apart from the provisions relating to protective service."

These contracts covering protective services were brought under the commission's jurisdiction by the Transportation Act of 1940.

Pendulum-Type Car for the Santa Fe

A pendulum-type passenger car, designed and built by the Pacific Railway Equipment Company, Los Angeles, Cal., has recently been delivered to the Atchison, Topeka & Santa Fe and, when placed in regular service, will be operated in "El Capitan," between Los Angeles, Cal., and Chicago on a schedule of 39¾ hr.

Designed to float, suspended two feet above its center of gravity, the car is a new departure in railway coach construction and utilizes recent important developments in the aviation and automotive fields. The design of the new car permits it to bank like an airplane when negotiating curves at high speeds and the deep springing is said virtually to eliminate rail joint jolting.

Much like present lightweight streamlined coaches, the new car is of stressed-skin construction, the outer covering forming an integral part of the frame and the car body resembling a reinforced tube. This type of construction is exceptionally strong and used to a great extent in modern airplane construction. Many new ideas in acoustical and decorative treatment have been incorporated to add to the comfort and beauty of the design. In trial tests, completed last month, the new Preco car is reported to have shown a high degree of riding comfort, quietness and freedom from vibration at speeds up to 100 miles an hour.

National Defense Main Topic at Central Board Meeting

A three-way discussion of National Defense Under a Democracy by Frank P. Fogarty, commissioner of the Omaha Chamber of Commerce, representing producers and industry; Eldon M. Martin, general solicitor of the Chicago, Burlington & Quincy, representing transportation; and Col. Max A. Elser, quartermaster of the Seventh Corps Area, representing the Army, will be a feature of the forty-fourth regular meeting of the Central Western Shippers Advisory Board at Sioux City, Iowa, on December 9 and 10. Other highlights of the meeting, which will consider transportation's vital role in the National Defense Program, will be a talk on the national transportation picture by Ralph E. Clark, assistant to the chairman of the Car Service division of the Association of American Railroads; a general analysis and discussion of business conditions in the Central West and reports by the Board's committees.

Approves Burlington Motor Carrier Acquisition

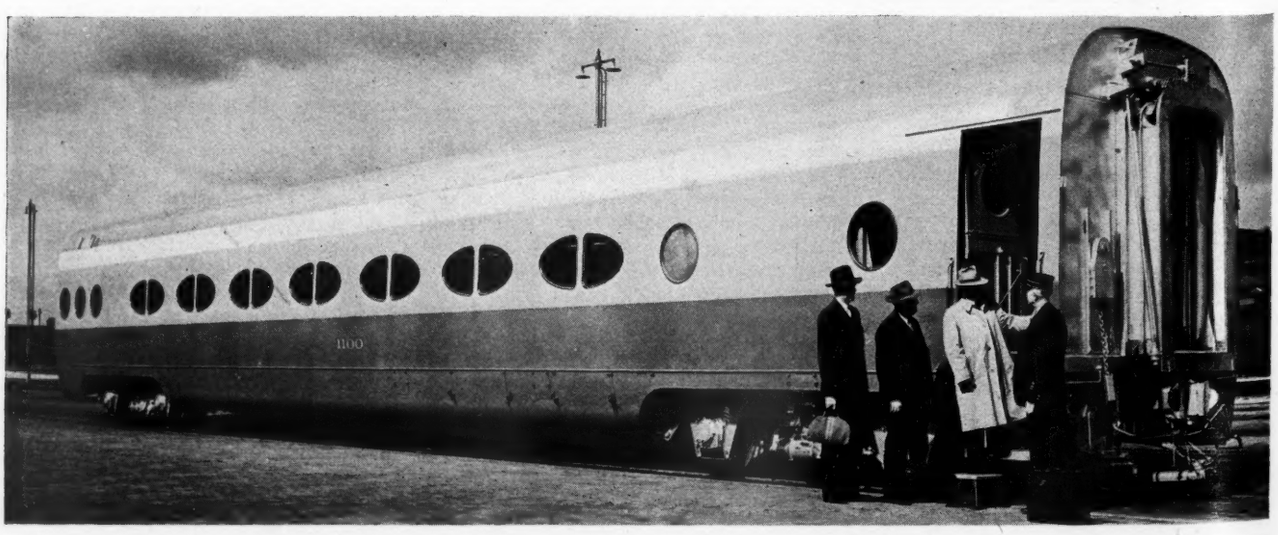
The Burlington Transportation Company, a wholly-owned motor carrier subsidiary of the Chicago, Burlington & Quincy, has been authorized by Division 4 of the Interstate Commerce Commission to acquire joint control of the Denver Colorado Springs Pueblo Motor Way, Inc., and control of the Denver & Interurban Motor Company, through purchase of capital stock. As a result of the transaction, the Burlington company will share control of the Motor Way with the Denver & Rio Grande Western, each company owning 50 per cent of the stock. The control of the Interurban Company will be acquired from the Colorado & Southern, a subsidiary of the C. B. & Q. At present the Burlington company and the C. & S. each own 25 per cent of the stock of the Motor Way, and the former will acquire the latter's interest.

The approval of the transaction is subject to the commission's condition that if the authority granted is exercised, the Burlington company will amortize, in equal annual amounts, over a maximum period of 10 years, commencing with the date of the consummation, that portion of the increase in its investment account resulting from the instant transactions equal to the amount by which the purchase price paid for the stock is in excess of the net book value of the stock purchased, exclusive of intangibles as of the date of consummation.

Lea Introduces Land-Grant Rate Repealer

Repeal of remaining provisions of the land-grant-rate law is proposed in H. R. 6156 which was introduced in the House of Representatives on December 2 by Representative Lea, Democrat of California, chairman of the House committee on interstate and foreign commerce. The law was partially repealed by the Transportation Act of 1940, but the remaining provisions leave land-grant deductions on "the transportation of military or naval property of the United States moving for military or naval and not for civil use," and on "the transportation of members of the military or naval forces of the United States (or of property of such members) when such members are traveling on official duty."

As noted in the *Railway Age* of November 1, page 709, the difficulties which have arisen as to the applicability of land-grant rates to traffic moving in connection with the defense program have crystallized among railroads and shippers a sentiment favoring complete repeal. Mr. Lea expects that his repealer might have the support of President Roosevelt, the Interstate Commerce Commission and defense agencies. In that connection it was recalled that the land-grant-rate situation was one of the things discussed in the recent conferences on the wage controversy which President Roosevelt held with representa-



Santa Fe Pendulum-Type Passenger Coach Which Leans Inward Instead of Outward When Negotiating Curves at High Speeds

tives of railroad labor, management and the government.

Meanwhile, the Comptroller General has written to the Southern Pacific stating that he could not see his way clear to make the effective date of the relief accorded by the 1940 amendment the date of the filing by railroads of releases of claims to land. This is because he has been unable to secure from Secretary of Interior Ickes a statement of such filing dates. As noted in the aforementioned issue of November 1. some government departments are holding that the partial repeal provisions did not become effective until such releases were approved by the Secretary of the Interior, whereas the law indicated that the relief would come when carriers with claims to land "shall file" the releases.

I. C. C. Approves Merger of Water Carriers

The Great Lakes Transit Corporation has been authorized by Division 4 of the Interstate Commerce Commission to acquire control of the Minnesota-Atlantic Transit Company through the acquisition of its capital stock. The decision went on to say that since the transaction involves acquisition by the Great Lakes company of the Minnesota's capital stock only, that part of the application which is for authority to consolidate its franchises and certain of its property with those of the Great Lakes company will be dismissed.

The Great Lakes Company operates two distinct branches of service, the Lake Superior division, between Buffalo, N. Y., and Duluth, Minn., via Detroit, Mich., and other way ports, 986 miles; and the Lake Michigan division, between Buffalo and Chicago, Ill., via various way ports, including Milwaukee, Wis., 893 miles. The Minnesota company operates between Buffalo, N. Y., and Duluth, Minn., via Detroit, Mich.

Complete Allocation of Steel Plates

Complete allocation of steel plates was ordered on December 1 by Donald M. Nelson, director of priorities, Office of Production Management, in General Allocation Order No. 1. The action is the first step in compliance with the request of the Supply, Priorities and Allocations Board, made November 1, that a direct allocation system for steel be worked out.

Defense demands for steel plates are such that the Army, Navy and Maritime Commission take approximately 50 per cent of existing capacity. Other "leading users" listed in the OPM announcement, are the railroads, for car construction, and the petroleum industry, for pipe and in the construction of all types of tanks.

As of November 1, reports from steel plate producers showed defense and essential civilian orders, with ratings of A-10 or higher, in excess of production capacity for shipment during the month. Capacity of the industry is about 600,000 tons a month. The order defines plates and provides that after December 1 no person shall produce, deliver or accept plates except in accordance with the orders of the director of priorities.

Producers are required to file with OPM's Iron and Steel Branch, by the 15th of each month a schedule of production and shipments for the following month, together with a statement of unfilled orders for the period. They then will receive an allocation order from the director of priorities, making any changes that are deemed advisable. Plates produced in excess of schedule cannot be disposed of except at the direction of the director of priorities.

The order also provides that suitable forms for producers and customers will be prescribed from time to time. Immediate purpose of the order, according to OPM, is to insure "a continuous flow of plates into defense channels and to provide an adequate check against hoarding and excessive inventories."

Studies of steel plate requirements for non-defense industries now are being made by the Division of Civilian Supply in conjunction with the Division of Materials to determine what proportion of the available supply should be allocated to each. No direct allocations of this kind have yet been made, although substantial steps in this direction are being taken. Steel has been under priorities control since May 1, 1941, when General Metals Order No. 1 was issued. General Preference Order M-21, issued May 29, has provided overall steel control since.

Charter Granted Successor to C. S. & St. L.

An Illinois state charter was granted to a new railroad company, the Springfield & Southwestern Railroad Company, which plans to acquire and operate the eastern section of the old Chicago, Springfield & St. Louis. The new company, headed by Benjamin Schwartz of Mt. Vernon, N. Y., as president, will operate 7.78 miles of the old line extending from Cox street in Springfield west to a point 100 ft. south of the village of Curran. It will serve two coal mines and several bulk petroleum stations. The charter provides for the issuance of $100,000 in capital stock, $5,000 of which will be issued immediately at $100 par value. The new firm will take over operations when certificates of convenience and necessity are granted by the Illinois and the Interstate Commerce commissions. Several months ago a charter was issued to the Springfield Southern Railroad Company which proposed to operate the short line, but it never exercised its rights under its charter.

Locomotive Men Hear About OPA's Price Philosophy

Representatives of locomotive builders and specialty manufacturers who attended the November 25 Washington, D. C., meeting called by Leon Henderson, administrator of the Office of Price Administration, were told that Mr. Henderson's recent letter asking their companies along with car builders and manufacturers of maintenance of way and signaling equipment not to increase prices above the levels in effect October 1, 1941, reflected the desire of OPA to get along with the industry on this informal and "voluntary" basis rather than to impose price ceilings by formal order with explicit provisions for non-compliance, enforcement and detailed information concerning each sale and profits. OPA's announcement of the Henderson proposal was noted in the *Railway Age* of November 29, page 925.

As also noted there the November 25 meeting with the locomotive and specialty manufacturers was called for the purpose of giving OPA officials an opportunity to expound their general philosophy of price control and to get the reaction of the industry representatives. More than 100 persons were in attendance at the session which was presided over by J. Dean, chief of OPA's Industrial and Agricultural Machinery Section.

Mr. Dean is understood to have opened the proceedings with a statement wherein he asserted that OPA's whole objective is to stop inflation in which connection it may have to take drastic steps. He is also understood to have given assurance that the meeting had been approved by the Department of Justice. OPA, as Mr. Dean identified it, is not a reform agency; on the contrary, it conceives its role to be one of serving the capitalist system, taking as its standard what prevailed under normal competitive circumstances and not trying to improve on it.

Proceeding, Mr. Dean told of the various types of price administration which OPA has to offer. What he called the lowest level of the formalities is the voluntary agreement between members of an industry, i. e., an agreement made individually with each company that it will not advance prices. OPA has not found this method very satisfactory if a large number of producers are involved and if the commodity is not homogeneous. The next level is that involved in a request that an industry hold its prices constant as of a certain date—the initial approach in the case of the railway equipment and supply industry, as noted above. Then there is the price ceiling imposed by formal order. Another alternative is whether there should be individual firm freezing of prices or commodity freezing, in which connection Mr. Dean suggested that it may be possible to work out a specific commodity ceiling with maximum prices on each piece of equipment.

The commodity ceiling seems to OPA to have clear cut advantages, since, as they see it, it is explicit, simple and allows for much freedom of adjustment under the ceiling. As to the date at which prices should be frozen, Mr. Dean suggested that October 1 may not have been the right date for the industry; and if it results in injustice he hopes OPA will have an opportunity to remedy them. Discussing the price problem in connection with so-called tailor-made equipment, Mr. Dean said that, if it will work, OPA likes the method of side-stepping the issue with a stand that there is enough standard equipment so that specially-designed equipment will not become a price-raising device.

Another problem discussed by Mr. Dean was that which arises when prices have to be quoted some time in advance of the delivery date. One method, he suggested, would be to mark prices high enough to take care of estimated cost increases; but OPA does not like that idea. It rather favors letting industry handle the matter. Mr. Dean's comment on escalator clauses is understood to have indicated that OPA does not think the idea is good public

policy. In fact, it regards such clauses as virtual guarantees of price inflation.

Thus Mr. Dean got around to saying that industry is going to be a lot better off it it takes some cost absorption and lower profits now in order that it may not lose all profits in a future inflation. In this connection, however, he disclaimed any thought on the part of OPA that the process of cost absorption should end in a no-profits situation; OPA thinks that there should be an "adequate" profit margin. The solution to the forward pricing problem which OPA thinks is likely to prove best is to stay with prices and adjust the ceilings upwards when necessary, reserving the right to increase prices up to the OPA ceiling at the time of delivery.

OPA, Mr. Dean said, wants advice on criteria for upward adjusting of prices. As to the distribution of increases to a company's entire line, it is inclined to say that it is interested only in the overall weighted average increase in prices. Meanwhile, it feels that repair parts should not be advanced in price; also, that the federal income tax is not a cost and that advances in wages should not be passed on to the buyer. However, OPA wants advice on all these matters in which connection Mr. Dean asked the industry representatives to help pick out an advisory group from among themselves. He gave assurances that no one serving on such a panel would be subject to anti-trust action, although paid officers of trade associations should not be members.

Representatives of locomotive builders attending the meeting told Mr. Dean that they have no more desire than the government to find themselves involved in an upward spiral; but they must at the same time see to it that they are not ruined by price ceilings rather than inflation. They pointed out also that a locomotive is a custom-made job and consideration of its price must contemplate the over-all cost, including such elments as modernity, efficiency, and economy in operation. As one of the locomotive company executives put it, he was more interested in having business on an even keel than in making greater profits. He was interested in the idea for an OPA advisory panel composed of representatives of the industry, but he warned that the industry's problem could not be settled on the basis of general principles—they must be worked out on the basis of facts. Another executive expressed the view that the builders and the specialty companies should have separate though co-related panels. This idea was endorsed by an executive of one of the specialty companies.

Carriers See Largest Passenger Movement in History

With hundreds of thousands of furloughed service men going home for the holidays, in addition to the usual Christmas traffic, the nation's railroads are set to handle this year what will probably be the largest mass movement of long-distance passenger travel in all their history, according to the Association of American Railroads.

Plans for taking care of the movement include the operation of hundreds of special trains and extra sections, with thousands of cars added to regular trains, it was pointed out. During the rush period, the railroads will run more than 20,000 passenger trains daily, or 2,000 a day more than ordinarily are necessary.

The Army has relaxed its regulations to permit as many as half the troops to be absent on leave at the same time between December 13 and January 11. Under this arrangement, it will be possible for almost three-quarters of a million men to go home at once. This is, it is declared, double the entire strength of the Army just a year ago.

Since the center of population is in the north and east and the center of military training is in the south and southwest, the average journey of the special trains on which most of the service men will travel will be about 800 miles, with some specials running more than 2,000 miles. Men who have the longer distances to go will be allowed furloughs of 16 days, and the others will be given 10 days between December 20 and January 4.

Realizing to what extent the large number of furloughed men would tax transportation facilities at this season of the year, the military authorities have cooperated closely with the railroads in working out plans to handle the greatly increased traffic with the least possible difficulty, says the A. A. R. statement. Furloughs for the holiday period will be staggered with regard to the availability of transportation facilities. Railroad ticket offices at the various camps, posts and stations will sell reduced-fare tickets and furnish information about departing and returning trains.

As a further cooperative step, the Army has suspended all routine troop movements from station to station by commercial carrier during this period, while trainees are not to be transported to units and stations until after the holidays.

Preparations for the handling of this enormous mass movement were begun weeks ago. Conferences of railroad passenger traffic and operating officers were held at Washington, New York City, Chicago and Atlanta to map out a course of action. Railroad representatives at the more than 200 widely scattered military camps, posts and stations throughout the country obtained estimates of the prospective traffic, on the basis of which tentative train schedules were fixed.

"A survey of railroad passenger equipment showed that there is sufficient available rolling stock to meet the anticipated demands," it was asserted. "In fact, the equipment situation is much better now than a year ago, due to the addition of many new cars, the reconditioning of others and arrangements made with the Pullman Company for the use of a thousand of its

* * *

There Is Increased Activity At the Jacksonville (Fla.) Shops of the Seaboard Air Line Under a Top-Speed Rebuilding Program. These Shops are Being Enlarged Under a Plan Which Calls for Expenditure This Year of $225,000

tourist cars as coaches. Plans to feed the men while en route have been made at meetings of dining car department managers."

Special trains for the homeward-bound service men will begin leaving the camps on December 13. Most of the long-distance trains will converge on such important gateways as Chicago, St. Louis, Cincinnati and Washington. Beyond these and other gateways, the trains will proceed to various destinations, where they will terminate as special trains and their passengers will fan out, many of them continuing their trips on regular trains.

Through the gateway at Washington, for example, 68 special trains will pass in a five-day period. These trains, carrying more than a thousand cars of furloughed men from stations in Virginia, the Carolinas, Georgia, Florida, Alabama and Texas, will go to New York and other destinations in the East. Ten will run through to New England.

In preparation for the handling of the military furlough traffic, cars are already being sent into the camp areas, and this will continue right up to the time of the movement. Whole trains of empty cars will be moved to points where the traffic is expected to be heaviest. The equipment of the special trains which will deliver the service men going long distances to their destinations by December 20 will be available for handling civilian travel during the Christmas rush.

Would Permit Big Truck Combine

(*Continued from page 961*)

for the year ended April 30, 1941, a sum equal to six per cent of the par value of the preferred stock received, and dividing the remainder by two.

The eight lines involved in the proposed merger operate a total of 3,320 motor vehicles and employ between 6,000 and 7,000 persons.

A motor carrier, the International Brotherhood of Teamsters, Chauffeurs, Warehousemen, and Helpers of America, the National Industrial Traffic League, and the Antitrust Division, Department of Justice, opposed the merger. A number of other motor carriers, shippers, shipper organizations and the Lynchburg, Va., Chamber of Commerce also intervened but did not oppose the application.

The Antitrust Division contended that the transactions would unduly restrain competition in the motor carrier industry, would not result in savings being passed on to the public in the form of lower rates, and further, that the securities to be issued should be sold at competitive bidding.

On the first contention, the examiner would have the commission find:

1. That, if the proposed transactions were consummated, there would remain adequate motor carrier competition between the points in the territory involved with respect to which there would be any elimination of competitive service as a result of such transactions.

2. That, between the principal points involved, substantial competition would be afforded the unified operation by rail carriers.

3. That the proposed merger would not result in an undue restraint of competition.

Referring to the contention of the Department of Justice that the proposed savings would not be passed on to the public, the examiner declared that "such a position is untenable. Reduction in the cost of transportation service has been recognized as being a matter of public interest in numerous decisions of this commission. Among other things, the act declares it to be the national transportation policy of Congress 'to promote safe, adequate, economical and efficient service'. It is to be expected that permanent reduction in the cost of transportation service will be reflected eventually either in lower rates than would otherwise be applied, or in improvements in service, either of which would be in the public interest. So far as rates are concerned, this commission has adequate powers under the act to protect the situation."

On this second contention of the Antitrust Division, Examiner Baker would have the commission make the following findings:

1. That the proposed merger would result in improved transportation service, in that through movements of freight would be simplified and expedited, terminal facilities would be improved, the handling of shipments reduced, relations with shippers and public regulatory bodies would be simplified, and safe operations promoted.

2. That the merger would result in more efficient and greater utilization of equipment, and provide a transportation system better fitted to meet the increased demand for transportation service than the carriers involved if operated independently.

3. That such transactions would result in substantial operating economies.

4. That assumption by the applicant of the fixed charges of the carriers involved would not be contrary to the public interest.

On the question of the competitive bidding for the securities of the new company, the examiner feels that considering the type of securities involved, the newness of the enterprise, and the unfamiliarity generally of the public with motor carrier securities, "there is grave doubt whether marketing of the securities through competitive bids would be feasible." He goes on to say that he believes the proposed condition, requiring approval by the commission of any agreement entered into for the disposition of the securities will adequately protect the situation.

Examiner Baker would have the commission attach the following condition to the order authorizing the issuance of the securities:

Prior to the exercise of any such authority applicant's articles of incorporation shall be amended (and evidence of such amendment furnished the commission) so as to provide that holders of its preferred stock shall be entitled to six votes for each share of stock held, in lieu of one vote as presently provided, and that in the event of default in payment of dividends upon such preferred stock for three years or more, thereafter, until all dividends in arrears on such stock are paid, the preferred stockholders, voting separately as a class, shall be entitled at any stockholders meeting held for that purpose to elect a majority of applicant's board of directors.

On the subject of the effect of the merger on the employees, Examiner Baker would have the commission find that the consummation of the proposed transactions would not result in such substantial injury to the carrier employees affected as to warrant denial of the applications.

"The benefits which would accrue from a unification of this sort," concludes the proposed report, "are particularly important at this time because of the increasing demand for transportation facilities, on the one hand, and an impending shortage of equipment, on the other. In the past, the carriers involved have been able to expand their facilities to take care of the growing volume of business through use of earnings. Increasing income taxes will substantially lessen their ability to do this. Sale of stock to the public by these carriers individually for raising additional capital is not feasible, and extensive use of credit for expansion of facilities would place them in such a precarious financial position that their solvency would be jeopardized in the event of a recession in business."

Carriers Fined for Violating Rule 34

The Interstate Commerce Commission has been advised that on November 28, in the United States District Court for the Western District of Virginia at Lynchburg, the following informations were filed, pleas of guilty entered, and fines imposed by the court:

1. The Norfolk & Western pleaded guilty to an information in eight counts, six of which charged violations of section 1 of the Elkins Act and two of which charged falsification of records in violation of section 20 (7) (b) of the Interstate Commerce Act, and the court imposed a total fine of $8,000.

2. The Bassett Furniture Industries, Inc., pleaded guilty to an information in four counts charging violations of section 1 of the Elkins Act, and the court imposed a total fine of $4,000.

3. The Danville & Western pleaded guilty to an information in one count charging violation of section 1 of the Elkins Act, and the court imposed a fine of $1,000.

4. The Morris Novelty Furniture Corporation pleaded guilty to an information in one count charging violation of section 1 of the Elkins Act, and the court imposed a fine of $1,000.

The informations, declared the commission statement, charged the railroads and shippers with having unlawfully and knowingly granted and received, respectively, concessions in violation of section 1 of the Elkins Act and, in addition, the Norfolk & Western was charged in two counts with the falsification of its records.

"These cases," the commission statement continued, "arose through the failure of the carriers and shippers to observe and apply the provisions of Rule 34 of the Consolidated Freight Classification in respect of two cars furnished by the carriers to their respective shipper for each

shipment for the loading of carload shipments of furniture. The carriers failed to assess and collect, and the shippers failed to pay, freight charges based on at least the carload minimum weights and rates applicable to each car, as was required by the provisions of Rule 34 when two cars were ordered by the shipper and furnished by the carrier in compliance therewith and not for the carrier's convenience.

"Instead, the carriers assessed and collected freight charges based on the carload minimum weight applicable to the first car loaded, or on the actual weight if in excess thereof, and the carload rate based on the actual weight, which was less than the carload minimum weight, of the shipment loaded in the second car. Notations were placed on the bills of lading by the shippers which asserted that a 50-ft car, or a larger car, was ordered by the shipper, and two 40-ft. cars, or two smaller cars, were furnished by the carrier for its convenience, when actually, the informations charged, the shippers ordered two 40-ft. cars, or two smaller cars from the carrier, which were furnished and loaded. These notations were transcribed by the N. & W., the informations charged, to its freight waybill, thereby falsifying that record."

The cases were investigated by the commission's Bureau of Inquiry, which also assisted in their presentation to the court.

All-Commodity Rates Found OK

(*Continued from page 962*)

connection, Mr. Eastman suggested, "seems to be that the small shippers are inarticulate or are unable financially to present their grievances, so that the commission must through deductions and inferences as to what may happen act as guardian of their rights." Yet the chairman's experience does not lead him to believe that small shippers are in that position; when they have a grievance "they communicate it, if not in formal complaints at least in letters or otherwise informally." So far as the motor carriers are concerned, Mr. Eastman knows of no reason why they should not establish all-commodity rates to meet the railroad competition.

Concluding, the chairman referred to the "special question" raised by Commissioner Porter, i. e., that the all-commodity rates as now published are not properly safeguarded. Mr. Eastman does not think that the present proceeding afforded an adequate record for the determination of that question, but he is "entirely willing" that the question should be opened up "for consideration in a comprehensive proceeding."

Mr. Porter protested that the rates involved were in violation of section 3 of the Interstate Commerce Act, and that the carriers should only be allowed to continue them subject to certain restrictions as to the furnishing of cars. It was quite apparent to Mr. Porter that the shippers who use the all-commodity rates want large cars, "for the larger the car the more space available for loading bulky freight and the smaller the quantity of heavy (low-rated) freight necessary to meet the carload minimum." The remedy, as he sees it, is to proportion the minimum weight and charge to the capacity of the car used. Also, he would withhold from all-commodity rates the "carriers' convenience" rule and the follow-lot rule, requiring shippers "to pay freight charges on every car they use subject to a minimum weight graded according to the capacity of the car."

Commissioner Alldredge was in general agreement with Mr. Porter, but he desired to emphasize also his feeling that all-commodity rates disregard the Interstate Commerce Act requirement that carriers shall observe just and reasonable classifications of property for transportation. While he has seen no confirmation of the view in his experience, Mr. Alldredge has heard the argument that the growth of highway transportation has rendered obsolete the classification of freight for transportation purposes. He added: "If, however, this argument must be accepted as sound, there is still a necessity of having a statute repealed before classification becomes legally extinct and Congress, rather than the commission, is the body to be consulted in that behalf . . . As long as the law stands as it is the commission's function is to pass upon the justness and reasonableness of classifications and not upon the fundamental question as to whether classification shall be observed or not."

Commissioner Johnson agreed with Mr. Alldredge and with most of what Commissioner Porter said. In addition, he thinks that the majority disregarded the national transportation policy set forth in the Transportation Act of 1940. In the latter connection Mr. Johnson cited a statement of the majority to the effect that the gain in traffic to the railroads would only about offset the losses in revenue resulting from the application of the all-commodity rates; while any traffic gain to the railroads would result in a corresponding loss for the truck lines. If that statement is correct, Mr. Johnson went on, "both the motor carriers and the rail carriers are damaged"; and that did not look to him like "administering the Interstate Commerce Act so as to promote economic and efficient service and to foster sound economic conditions in transportation among the several carriers, without unfair or destructive competitive practices, all to the end of developing, co-ordinating and preserving a national transportation system by water, highway, and rail."

Prices on Second-Hand Rail

Maximum prices for certain types of second-hand railroad rail that are sold for further transportation use are established in Price Schedule No. 46, Relaying Rail, announced December 3 by Leon Henderson, administrator, Office of Price Administration.

The OPA announcement pointed out that used railroad rail falls generally into three quality classifications: relaying quality, which is still serviceable for use as rail; rerolling quality, which is bought by so-called "rerolling" mills for conversion into lighter rail, concrete reinforcing bars or small structural shapes; and scrap quality, which is sold as scrap to steel mills and foundries. The latter two types—rerolling and scrap—are already under maximum prices in Price Schedule No. 4—Iron and Steel Scrap.

"The tremendous demands of the defense program for steel," OPA said, "have limited the amounts of new rail available with result that second-hand rail markets have become disordered. Rail of relaying quality has sold in many instances at prices as high or higher than those for new rail. Further, used rail that normally would flow to rerolling mills is being sold as relaying rail. Maximum prices set in the new schedule are designed to bring about orderly trading in the second-hand rail market and to restore more normal relationship between prices of relaying and rerolling qualities."

The schedule divides relaying rail into two categories: (1) rail originating from Class I roads and Class I switching or terminal companies; and (2) rail from all other sources, such as short lines, interurban lines and abandoned lines of all types. It is provided that if rail of Class I origin is sold by the railroad "in track," that is, not torn up and assembled, it shall fall into the "all other" classification.

Base price for relaying rail of Class I origin is established at $28 per gross ton f. o. b. any station on the selling railroad at the option of the buyer. When such rail is purchased by a dealer or jobber, it may be resold at a maximum price of $30 a ton, f. o. b. shipping point. For all other types of relaying rail, the schedule sets a ceiling shipping point price of $30 per gross ton minus the railroad freight charge for transporting such rail between the shipping point and the basing point nearest in terms of transportation charges. It is provided that in no case need the shipping point price be less than $22 a gross ton. The delivered price, accordingly, shall be the shipping point price plus the actual cost of transportation to the destination point.

The following cities are designated as basing points for relaying rail of other than Class I road origin: Boston, Mass.; Pittsburgh, Pa.; Detroit, Mich.; Norfolk, Va.; Kansas City, Mo.; Los Angeles, Calif.; Philadelphia, Pa.; Cleveland, Ohio; Chicago; Minneapolis, Minn.; Birmingham, Ala.; San Francisco, Calif.; Seattle, Wash.; Buffalo, N. Y.; Cincinnati, Ohio; Savannah, Ga.; St. Louis, Mo.; Houston, Tex.; Portland, Ore.

A special section of the schedule deals with relaying rail sold from warehouses equipped with machinery for reconditioning. The maximum prices in this section, all f. o. b. warehouse, are: $2.25 per hundred weight for less than five tons; $2 per hundred weight for five to less than 25 tons; and $1.60 per hundred weight for 25 tons and over. Persons desiring to operate under this special provision must file, on or before December 10, 1941, a statement indicating that they operate recognized warehouses equipped with machinery for reconditioning. Buyers of more than 100 tons of used rail are required to file with OPA within 10 days of purchase either a certificate from an established inspection bureau or an affidavit estimating the division of the purchase among relaying, rerolling and scrap qualities. OPA reserves the right to inspect and classify the rail itself.

In the case of sales of relaying rail

Continued on next left-hand page

NEW LIMA-BUILT POWER

for the

Conemaugh & Black Lick Railroad Co.

The Lima Locomotive Works, Incorporated has recently delivered two of the above type locomotives to the Conemaugh & Black Lick Railroad Co. for switching service. These locomotives have 25" x 28" Cylinders and 51" Drivers. The locomotives weigh 230,800 lbs. in working order and develop 55,400 lbs. tractive effort.

It is switching power of this type that gives the most satisfactory performance the whole year round, both from the standpoint of low maintenance cost and high availability at all times.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

of 25 tons or over to the ultimate consumer, the seller is required to file either a certificate by an established inspection bureau that such rail is of relaying quality or an affidavit from the consumer stating that the rail is to be used for relaying purposes.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, G. M. & O. R. R., 105 W. Adams St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo. Annual meeting, October 6-8, 1942, Omaha, Neb.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, May 12-14, 1942, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill. Annual meeting, January 16-17, 1942, St. Louis, Mo.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill. 1942 meeting, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—H. C. Millman, Ind. Agent, Pennsylvania R. R., Union Station, Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—W. M. Jones, Baltimore & Ohio R. R., 1105 B. & O. R. R. Bldg., Baltimore, Md.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Huntt, Tower Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y.
Railroad Division, C. L. Combes, *Railway Age*, 30 Church St., New York, N. Y.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C. Annual meeting January 27-29, 1942, Nicollet Hotel, Minneapolis, Minn.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington, D. C.
- Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.
  - Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
    - Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
    - Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
    - Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.
    - Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
    - Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
    - Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
    - Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
    - Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.
  - Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.
    - Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.
    - Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.
    - Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.
  - Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago, Ill.
    - Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill.
  - Purchases and Stores Division.—W. J. Farrell, Transportation Bldg., Washington, D. C.
  - Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, 1942, Chicago, Ill.
  - Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.
  - Car-Service Division.—E. W. Coughlin, Transportation Bldg., Washington, D. C.
- Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.
  - Accounting Division.—E. R. Ford, Transportation Bldg., Washington, D. C.
  - Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C.
- Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill. Annual meeting, June 17-19, 1942, Hotel Statler, Buffalo, N. Y.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—P. R. Austin, Johns-Manville Sales Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kartheiser, Chief Clerk, Mechanical Dept., C. B. & Q., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 8238 S. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bougher, 424 W. 33rd St. (11th floor), New York, N. Y. Next meeting, March 26, 1942.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, No. Little Rock, Ark.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. 1942 meeting, Dallas, Tex.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit in connection with A. R. E. A. Convention, March 16-19, 1942, 122nd Field Artillery Armory, 234 East Chicago Ave., Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September, and December, 29 W. 39th St., New York, N. Y. Annual dinner, December 11, 1941, Hotel Commodore, New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, and Hotel Hayward, Los Angeles.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton (Exec. Vice-Pres., Sec'y and Treas.), First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N. Y.

WESTERN RAILWAY CLUB.—E. E. Thulin (Executive Secretary) Room 822, 310 S. Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

Construction

ATCHISON, TOPEKA & SANTA FE.—Division 4 of the Interstate Commerce Commission has ordered in Finance Docket No. 7873 that the time within which this company may complete the construction of a line from Farley, N. Mex., to Colmor, 35.3 miles, shall be further extended from January 1, 1942, to January 1, 1944.

ATLANTIC COAST LINE.—Division 4 of the Interstate Commerce Commission has ordered in Finance Docket No. 11709 that the time within which this company may commence and complete the construction of an extension in Columbus County, N. C., shall be further extended from January 1, 1942, and March 31, 1942, to January 1, 1943, and March 31, 1943, respectively.

CENTRAL OF GEORGIA.—The Alabama Highway Department has awarded a contract amounting to $60,727 to the A. L. Crow Construction Company, Birmingham, Ala., for the removal of an existing overhead highway bridge, the construction of a new overhead bridge over the Central of Georgia and the grading, drainage and surface treatment of the new highway bridge approaches on the Childersburg-Alabama Ordnance works road at Childersburg, Ala.

PENNSYLVANIA. — This company has awarded contracts for the construction of freight house facilities at Halsted Street, Chicago, to the Ellington Miller Company; for a warehouse extension in Cincinnati, Ohio, to the J. & F. Harig Co.; and for additional mail-handling facilities at Washington, D. C., to McCloskey & Co.

TEXAS & PACIFIC-TEXAS & PACIFIC-MISSOURI PACIFIC TERMINAL RAILROAD OF NEW ORLEANS.—Division 4 of the Interstate Commerce Commission has ordered in Finance Docket No. 12843 that the time within which these companies may complete the construction of connecting tracks in Orleans and Jefferson Parishes, La., shall be further extended from December 1, 1941, to February 1, 1942.

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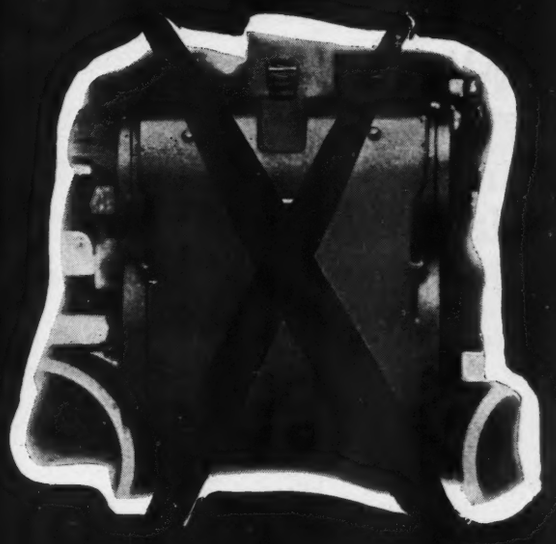
ELIMINATE THE PISTON VALVE



THE FRANKLIN SYSTEM OF Steam Distribution

The introduction of The Franklin System of Steam Distribution has effectively exploded the old theory that the boiler was the restricting factor that governed the hauling capacity of a locomotive. The extensive tests that were made in conjunction with the development of The Franklin System of Steam Distribution graphically show that the controlling factor of the locomotive's output is the ability to handle the intake and exhaust steam.

Through separate control of the valve events, larger intake and exhaust passages, and multiple poppet valves The Franklin System of Steam Distribution is able to get ⅓ more work out of each pound of steam — *result:* ⅓ increase in train load-speed capacity.

Equipment and Supplies

Equipment Buying Lull Maintained

Domestic orders at low level; but marked activity noted in export market

Orders placed for new freight cars for domestic service during November declined to the smallest monthly volume of the year, totalling 2,207 cars. Thus, during the past four months of declining purchases, August-November, inclusive, 11,959 freight cars have been ordered, less than the average number for one month during the preceding seven months of the year, during which period a total of 102,848 cars were ordered. With the majority of the country's carriers apparently determined to postpone new buying until the number of cars already on order is substantially reduced and earlier delivery dates for newly-ordered equipment made available, the railway equipment market in November, as in the preceding three months, continued thin with orders by two carriers accounting for the bulk of purchases, namely, the Lehigh Valley for 1,000 cars and the Bessemer & Lake Erie for 925 cars. Purchases last month chiefly comprised 1,500 hopper and 710 gondola cars, and were divided 2,160 to carbuilders and 110 to railroad company shops.

Comparison of railway equipment purchases for domestic service as reported in the *Railway Age* during November with orders placed in the preceding month of October and the corresponding month of November last year follow:

November Orders Compared

	Nov. 1941	Oct. 1941	Nov. 1940
Locomotives:			
Steam	4	12	22
Diesel	38	31	36
Electric	..	..	..
Total locos.	42	43	58
Freight cars	2,270	3,574	6,414
Passenger cars	..	..	20

Of the 38 Diesel-electric locomotives purchased in November, all for switching service, 24 were ordered by railroads, including 11 of the 1,000 hp., ten of 600 or 660 hp., and three of less than 600 hp.; four of less than 600 hp. by industrial companies and ten of less than 600 hp. by United States Government departments. Leading railroad purchases included eight units of 660 hp. by the Western Pacific and seven of 1,000 hp. by the Union.

Large Export Orders Placed

Feature of last month's equipment market was the large number of locomotives purchased for export. The United States War Department ordered 50 standard gage steam locomotives of the 2-8-2 type for export to an unannounced destination (reportedly Iran and the Near East) under the lease-lend act, the materials for which received an A-1-a priority rating. The expected purchase of a total of 200 of these locomotives was first reported in the *Railway Age* of September 27. It is anticipated that orders for the remaining 150 units will follow the original order and that, complying with urgent instructions of the Government, all the locomotives will be completed by the summer of 1942. The War Department also ordered 20 meter-gage steam locomotives of the 2-8-8-2 type for the Yunnan-Burma railway in China, the materials for which received an A-1-i priority rating. The National Railways of Mexico placed a large order in the American market totalling 33 steam locomotives comprising 20 standard-gage 4-8-4s, seven narrow-gage 2-6-6-2s and six narrow-gage 2-8-0s. Reportedly pending in the market last month were large volumes of freight cars for export to Iran and the Near East, China and South America.

Equipment Orders—First Eleven Months

Volume of equipment orders placed during the past eleven months of this year and comparison with the corresponding eleven months of last year is shown hereunder:

	First Eleven Months		
	1941	1940	Increase
Locomotives:			
Steam	317	189	128
Diesel	755	395	360
Electric	26	13	13
Total locos.	1,098	597	501
Freight cars	114,807	57,234	57,573
Passenger cars	621	284	337

Domestic Equipment Orders Reported in Issues of the Railway Age in November, 1941 (Excluding December 1)

LOCOMOTIVES

Date	*Name of Company*	*No.*	*Type*	*Builder*
Nov. 8	Arkansas Ordnance Plant, Little Rock, Ark.	1	Diesel-electric Sw.	General Electric Co.
Nov. 8	Johns-Manville Service Co.	1	Diesel-electric Sw.	Whitcomb Locomotive Co.
Nov. 8	Litchfield & Madison	1	Diesel-electric Sw.	Baldwin Locomotive Works
Nov. 8	U. S. Chemical Warfare Arsenal, Huntsville, Ala.	2	Diesel-electric Sw.	General Electric Co.
Nov. 8	Chicago & North Western	2	Diesel-electric Sw.	American Locomotive Co.
Nov. 15	Southern Pacific	3	Diesel-electric Sw.	General Electric Co.
Nov. 15	Upper Merion & Plymouth	1	Diesel-electric Sw.	General Electric Co.
Nov. 15	Macon, Dublin & Savannah	1	Diesel-electric Sw.	Baldwin Locomotive Works
Nov. 15	Union Railroad	5	Diesel-electric Sw.	Electro-Motive Corp.
		2	Diesel-electric Sw.	American Locomotive Co.
Nov. 15	U. S. Navy	1	Diesel-electric Sw.	Atlas Car & Mfg. Co.
		2	Diesel-electric Sw.	General Electric Co.
		1	Diesel-electric Sw.	Whitcomb Locomotive Co.
Nov. 15	Western Pacific	8	Diesel-electric Sw.	American Locomotive Co.
Nov. 22	Belt Railway of Chicago	1	Diesel-electric Sw.	Baldwin Locomotive Works
Nov. 22	Weldon Springs, Mo. Ordnance Plant	2	Diesel-electric Sw.	General Electric Co.
Nov. 22	Lone Star Defense Corp.	2	Diesel-electric Sw.	General Electric Co.
Nov. 29	Brecon Loading Corp.	1	Diesel-electric Sw.	General Electric Co.
Nov. 29	U. S. War Dept.	1	Diesel-electric Sw.	H. K. Porter Co.
Nov. 29	Bessemer & Lake Erie	2	2-10-4 Frt.	Baldwin Locomotive Works
		2	0-8-0 Sw.	American Locomotive Co.

FREIGHT CARS

Nov. 8	Central of New Jersey	50	Cov. hopper	American Car & Fdy. Co.
Nov. 8	Bessemer & Lake Erie	425	Hopper	Pullman-Standard
		300	Gondola	Greenville Steel Car
		200	Gondola	Pressed Steel Car
Nov. 8	Bethlehem Steel Co.	120	Gondola	Bethlehem Steel Co.
Nov. 15	Mathieson Alkali Works	4	Box	American Car & Fdy. Co.
Nov. 15	Lehigh Valley	1,000	Hopper	Bethlehem Steel Co.
Nov. 22	Pittsburgh & West Virginia	5	Caboose	Bethlehem Steel Co.
Nov. 22	Chicago, Milwaukee, St. Paul & Pacific	5	Gondola	Bethlehem Steel Co.
Nov. 29	Weirton Steel Company	18	Flat	Company Shops
Nov. 29	Aliquippa & Southern	50	Gondola	Company Shops
Nov. 29	Norfolk & Western	25	Cov. hopper	Company Shops
Nov. 29	Monongahela Connecting	35	Gondola	Company Shops
Nov. 29	Niagara Alkali Company	10	Tank	American Car & Fdy. Co.
Nov. 29	Aluminum Company of America	3	Transfer	American Car & Fdy. Co.
Nov. 29	Warren Petroleum Corp.	20	Tank	American Car & Fdy. Co.

NO PASSENGER-TRAIN CARS ORDERED IN NOVEMBER, 1941

LOCOMOTIVES

THE UNITED STATES NAVY DEPARTMENT is asking for bids on one 45-ton Diesel-electric locomotive—schedule 2615.

THE AKRON, CANTON & YOUNGSTOWN-NORTHERN OHIO, has ordered one Diesel-electric switching locomotive of 1,000 hp. from the American Locomotive Company.

THE RAVENNA ORDNANCE PLANT, Ravenna, Ohio, has ordered two 45-ton Diesel-electric locomotives from the General Electric Company.

THE TENNESSEE COAL, IRON & RAILROAD Co. has ordered four Diesel-electric switching locomotives of 660 hp. each from the American Locomotive Company.

THE UNITED STATES WAR DEPARTMENT, La Carne, Ohio, has ordered one 23-ton Diesel-electric locomotive from the General Electric Company.

THE TENNESSEE CENTRAL has ordered one Diesel-electric switching locomotive of 660 hp. from the American Locomotive Company.

THE UNITED STATES NAVY DEPARTMENT, Bureau of Supplies and Accounts, has awarded contracts for a total of seven 45-ton Diesel-electric locomotives, allocating five to the General Electric Company and

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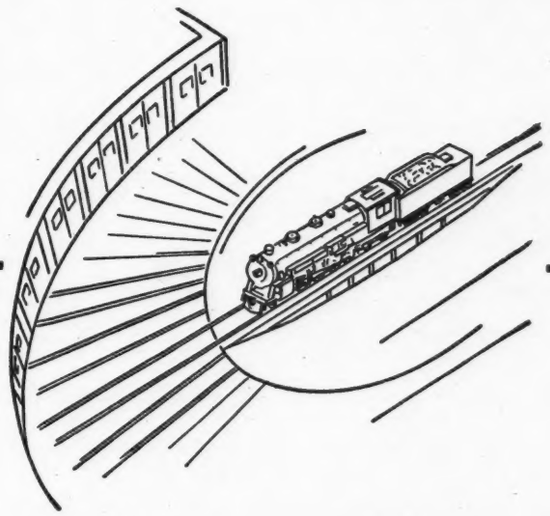
SPECIAL BRICK

SHAPES

...are a nuisance



The initial standardization of Arch Brick shapes and sizes and Arch tube spacing was the work of the American Arch Company.

It is a work that goes forward constantly and saves the Stores and Mechanical Departments a vast amount of trouble.

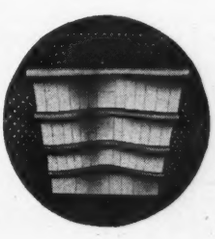
The easiest solution to many a locomotive Arch engineering difficulty would be to use a special brick shape. But this the American Arch Company is willing to do only as a last resort. Over 50 % of all Arch Brick is covered by 6 separate patterns.

The insistence of American Arch Company on adhering to standards has simplified the work of the Storekeeper and Maintenance Man. It is only one of the many ways in which American Arch Company is serving the railroads.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

two to the H. K. Porter Company, as follows: One at $26,830 for delivery to Charleston, S. C.; three at $52,860 for delivery to Burns City, Ind.; one at $25,950 for delivery to Hawthorne, Nev., to the General Electric Company; and two at $51,410 for delivery to Fallbrook, Cal., to the H. K. Porter Company. The inquiry for this equipment was reported in the *Railway Age* of October 11.

THE KANSAS CITY TERMINAL has ordered four Diesel-electric switching locomotives of 660 hp. from the American Locomotive Company.

THE CHICAGO, INDIANAPOLIS & LOUISVILLE has ordered four Diesel-electric switching locomotives including three of 1,000 hp. and one of 600 hp. from the Electro-Motive Corporation.

THE CANADIAN PACIFIC has ordered 17 4-6-2 type steam locomotives for passenger or freight service from the Canadian Locomotive Company. These are in addition to 20 locomotives of the same type ordered from this company earlier this year.

THE TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS has ordered five Diesel-electric switching locomotives, placing two with the American Locomotive Company, one with the Baldwin Locomotive Works and two with the Electro-Motive Corporation.

FREIGHT CARS

THE VIRGINIAN will build 900 hopper cars of 55 tons' capacity and 100 gondola cars of 55 tons' capacity in the company's own shop at Princeton, W. Va.

THE CHICAGO, INDIANAPOLIS & LOUISVILLE has ordered ten 29-ft. 3-in. steel covered hopper cement cars of 70 tons' capacity from the General American Transportation Corporation.

THE TENNESSEE COAL, IRON & RAILROAD Co. has ordered ten 21-ft. steel ore cars of 70 tons' capacity from the company's own shops. The inquiry for this equipment was reported in the *Railway Age* of September 27.

THE UNITED STATES WAR DEPARTMENT is reported to be inquiring for a total of 3,500 eight-wheel freight cars for export to Iran and the Near East, including 2,000 40-ton box cars, 900 40-ton high side gondola cars, and 600 40-ton low side gondola cars. The War Department is also reported to be in the market for a large number of four-wheel cars.

PASSENGER CARS

THE NASHVILLE, CHATTANOOGA & ST. LOUIS has ordered one 85-ft. steel coach car with seating capacity for 56 passengers from the Edward G. Budd Manufacturing Company.

THE PENNSYLVANIA has ordered three 85-ft. steel air-conditioned passenger coaches with seating capacity for 60 passengers from the Pullman-Standard Car Manufacturing Company.

THE LONG ISLAND has placed an order for five 80-ft. 3¼-in. steel-frame double-deck motor cars with seating capacity for 134 passengers and five 80-ft. 3¼-in. steel-frame double-deck trailers with seating capacity for 130 passengers with the Pennsylvania's company shops.

SIGNALING

THE PEORIA & PEKIN UNION has placed an order with the General Railway Signal Company covering materials for an all-relay interlocking at Pekin, Ill. The order includes a control machine, 9 Model 5C switch machines, 3 Model 7 switch circuit controllers, 13 Type F dwarf signals, Type K relays, copper-oxide rectifiers, and Type K transformers.

THE LOUISVILLE AND NASHVILLE has placed an order with the General Railway Signal Company covering materials for an all-relay interlocking at East Birmingham, Ala. The order includes a control machine equipped with 7 working levers, 2 model 5C 20-volt switch machines, 3 outlying switch locks, 4 color light signals, 2 Model 2A semaphore signals, and 6 switch circuit controllers. In addition the order calls for a factory-wired housing and tower relay case with Type K relays, copper-oxide rectifiers, and transformers.

MOTOR VEHICLES

THE SAN DIEGO ELECTRIC RAILWAY has ordered 20 motor coaches from the a.c.f. Motors Company.

AMERICAN AND CANADIAN RAILROADS have stepped up their passenger service appreciably in 1941, it is disclosed in a survey summarized by the Association of American Railroads from an article in "Railroad Magazine." Daily runs operating at an average speed of 60 miles or more per hour, with all types of motive power, are reported to have risen during the past year from 1,226 to 1,462, an increase of 19 per cent, and the distance traveled by these trains climbed from 63,447 to 76,818 miles, or 21 per cent.

Inclusion of high-speed trains that run only on certain days boosts the number of mile-a-minuters to 1,526 with a mileage of 85,645. A year ago such runs totaled 1,294 and the mileage aggregated 73,165. At the present time there are 34 runs booked at 75 miles or more per hour, and the mileage covered by them is 3,091. Twenty-nine of these are daily runs amounting to 2,211 miles—which is double the mileage over which trains operated in 1930 at an average speed of 60 miles or more per hour. The extent to which the railroads have accelerated their passenger service with safety in recent years can also be seen from the fact that the speed total of two large eastern railroads is greater than that of all the railroads in the United States combined in 1936, the survey points out.

Supply Trade

The Barrett Company has been consolidated with its parent company, the **Allied Chemical & Dye Corporation,** and will hereafter conduct its business as the Barrett Division of the parent company.

T. I. Phillips has been elected a vice-president of the **Westinghouse Electric & Manufacturing Co.** Mr. Phillips started with this company as a tool maker in 1915 and has been assistant to the president of the company since February 14 of this year.

OBITUARY

Henry E. Felton, who retired as chairman of the Union Tank Car Company, Chicago, in 1927, died in New York on November 24 of a heart ailment. He served as general freight agent of the Chicago & Eastern Illinois at Chicago and of the Lake Shore & Michigan Southern at Cleveland, Ohio, and in 1898 resigned from the latter position to enter the employ of the traffic department of the Standard Oil Company in New York. In 1911 he was elected president of the Union Tank Car Company and later became chairman of the board.

Daniel L. Eubank, president of the D. L. Eubank Company, died at Atlanta, Ga., on November 24. Mr. Eubank was born at Churchville, Va., November 24, 1869. He began his career in 1888 as a section laborer on the Chesapeake & Ohio and later served successively as locomotive fireman and engineer on that road until 1903, when he was appointed a road foreman of engines. In 1911 he left the railroad to become a service engineer of the Galena-

Daniel L. Eubank

Signal Oil Company and in 1919 was promoted to district manager of that company. In 1922 he was appointed its supervising service engineer, in which capacity he continued until 1932, when he established his own business as a railway supply representative and in which he has since continued.

Mr. Eubank has long been active in or-

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30 Years

Progressively Improving the Elesco Superheater

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ganizations of railway and railway supply men. He has been the president of the Railway Supply Manufacturers' Association since 1937. He became a member of the executive committee of this organization in 1926 and served as vice-president from 1930 to 1937. In 1922 he was president of the Railway Equipment Manufacturers' Association, the exhibiting organization formerly associated with the Traveling Engineers' Association. Mr. Eubank has been treasurer of the Southern & Southwestern Railway Club since 1932.

Albert Pack, who died suddenly of a heart attack in his hotel room in Chicago on November 15, as reported in the *Railway Age* of November 22, was born in Alpena, Mich., and went to work in the steel mills of Pittsburgh, Pa., at the age of 15 years. In 1910, he moved to East Chicago, Ind., and with J. W. Hubbard founded the Hubbard Steel Foundry Company. In 1918 he became president of

Albert Pack

this company. In 1930, when the Hubbard Company, the Duquesne Steel Foundry Company and the Wheeling Mold & Foundry Co. were merged into the **Continental Roll & Steel Foundry Co.,** Mr. Pack became chairman of the board. At the time of his death he was also chairman of the board of the **Detroit Seamless Steel Tube Company.** He was active in East Chicago industrial affairs.

Robert Gillies, vice-president of the Union Asbestos & Rubber Co., with headquarters at San Francisco, Cal., died on November 24. Mr. Gillies was born at Vincennes, Ind., on October 25, 1879. He entered railway service in 1914 in the mechanical department of the Oregon Short Line and in 1916 was promoted to mechanical engineer. He resigned from this position in 1919 to become assistant to the president of the Union Asbestos & Rubber Co., with jurisdiction over the development of products and sales. In 1922, he was elected vice-president in charge of western railroad sales and in November 1939 was placed in charge of production, engineering and research, with headquarters at Cicero, Ill. In the following year he made his headquarters in San Francisco.

Financial

ALMANOR.—*Acquisition, Operation and Stock.*—This newly-organized company has asked the Interstate Commerce Commission for authority to acquire and operate a line extending from Chester, Calif., to Clear Creek Junction, 14.1 miles, and belonging to the Grand Ronde Pine Company. At the same time the company asked commission authority to issue 1,479 shares of common capital stock of a par value of $100 a share, the proceeds to be used to pay for the property and to provide working capital. In exchange for the property the company will transfer 1,099 shares of its stock to the Grand Ronde company.

BALTIMORE & OHIO.—*Abandonment.*—This company would be permitted to abandon the portion of a branch line extending in a southwesterly direction from Bendale, W. Va., to Burnsville, 23.4 miles, if Division 4 of the Interstate Commerce Commission adopts a proposed report of its Examiner R. Romero.

BOSTON & MAINE-MAINE CENTRAL.—*Joint Operation.*—The Boston & Maine has asked the Interstate Commerce Commission for authority to continue its operations under trackage rights over lines of the Maine Central between Waumbek Junction, N. H., and Coos Junction, 11 miles, and between Whitefield, N. H., and Fabyan, 15 miles. At the same time the Maine Central requests authority to operate under trackage rights over a line of the B. & M. from Coos Junction, N. H., to Groveton, nine miles. The present operating agreement for these lines expires on December 31, 1945, and can be extended at that time for another 20 years. In the instant application both roads request authority to increase the length of the extension from 20 years to 99 years.

BOSTON & MAINE. — *Acquisition and Trackage Rights.*—This company has asked the Interstate Commerce Commission for authority to acquire from the Northern one-half of the capital stock of the Franklin & Tilton, thus giving it complete ownership of the line due to the fact that it already owns 50 per cent of the stock of the F. & T. The Franklin & Tilton extends from Tilton, N. H., to Franklin Junction, five miles.

At the same time this company seeks authority to extend for period of 50 years its month-to-month agreement with the New York Central whereby it is authorized to operate under trackage rights over a line of the Central between Forest Lake, Mass., and Creamery, 10.5 miles.

CHICAGO, BURLINGTON & QUINCY.—*Abandonment.*—This company would be authorized to abandon a portion of its branch line extending from Baiotto Mine Spur, Mo., to South Gifford, 7.1 miles, if Division 4 of the Interstate Commerce Commission adopts a proposed report of its Examiner A. G. Nye.

ERIE.—*R. F. C. Loan.*—This company has asked the Interstate Commerce Commission for authority to borrow $14,000,000 from the Reconstruction Finance Corporation to carry out its commission-approved plan of reorganization under section 77 of the Bankruptcy Act.

Specifically, the loan will be used for the following purposes:

1. To pay off $2,184,520 of New York & Erie second mortgage five per cent bonds;
2. To retire $4,712,359 of New York & Erie third mortgage 4½ per cent bonds;
3. To take up a $628,122 Railroad Credit Corporation four per cent note;
4. To pay off $1,795,787 of 3½ per cent bank loans;
5. To provide funds for $1,000,000 of reorganization expenses; and
6. To provide $3,679,210 for the reimbursement of working capital, in part, for payments of New Jersey taxes, applicable to the period prior to January 1, 1940, and payments of allowances under clause 12 of subsection c of section 77 of the Bankruptcy Act.

To guarantee the loan the company will pledge $14,000,000 of its collateral trust notes to be secured by a further pledge of $17,500,000 of Erie first consolidated mortgage four per cent bonds, series B, to be dated July 1, 1941, and to mature January 1, 1955. These bonds will be issued under the plan of reorganization.

ERIE.—*Stock Sold.*—Hemphill, Noyes & Co. and Merrill Lynch, Pierce, Fenner & Beane have announced the sale of 44,340 shares of new common stock (when issued) of the reorganized Erie at a price of 6⅜. These firms acquired 221,700 shares of this stock under competitive bidding from the C. & O.

GREENE COUNTY.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon and dismantle its line extending from Monroe, Ga., to Apalachee, 20.4 miles, and to abandon operation under trackage rights over 1.2 miles of line of the Central of Georgia.

HAMPTON & LANGLEY FIELD.—*Bonds.*—This company has asked the Interstate Commerce Commission for authority to issue 68 six per cent, 10-year bonds, 34 in the sum of $500 each, and a like amount in the sum of $100 each, the proceeds to be used to refund existing obligations in the amount of $20,400 due on December 1, 1941.

ILLINOIS CENTRAL.—*Notes of the Chicago & Illinois Western.*—The Chicago & Illinois Western has asked the Interstate Commerce Commission for authority to assume liability for $550,000 of 2½ per cent notes, payable serially in 11 equal semi-annual installments, the first to be paid July 1, 1942. The proceeds of the note, which will be sold to the Continental Illinois National Bank & Trust Company, will be used to retire $550,000 of Chicago & Illinois Western general mortgage six per cent bonds maturing July 1, 1947. At the present time there are $588,000 of the bonds outstanding, and the company will redeem them on January 1, 1942, using $38,000 in cash from its treasury to supplement the money derived from the note sale.

Before issuing the serial notes the company proposes to redeem with treasury funds and cancel its equipment trust certificates outstanding in the amount of $95,-

000. These certificates are held in equal amount by the three stockholders of the applicant, who have agreed to release them upon the receipt of the principal and accrued interest.

KANAWHA CENTRAL.—*Notes.*—This company has been authorized by Division 4 of the Interstate Commerce Commission (1) to issue promissory notes in the aggregate face amount of $16,202 to be payable to the Chesapeake & Ohio, or order, to refund a matured note of a like amount, and (2) to pledge as security for the notes $16,000 of 20-year six per cent secured notes.

The Kanawha company proposes to issue five new notes, payable to the C. & O., or order, four of them in the amount of $3,200 each, on or before one year, two years, three years, and four years respectively, from date, and one in the amount of $3,402 on or before five years from date, which would bear interest at the rate of six per cent. "In view of the prevailing interest rates," says the commission's decision, "we are of the opinion that a rate of six per cent for the proposed notes is too high. Our order herein will authorize the notes to bear interest at the rate of four per cent per annum."

NEW YORK, ONTARIO & WESTERN.—*Equipment Trust Certificates and RFC Financing.*—Division 4 of the Interstate Commerce Commission has approved a plan whereby this company will issue and sell to the Reconstruction Finance Corporation $162,000 of 2¾ per cent equipment trust certificates, maturing serially in the amount of $9,000 on May 1, 1942, in the amount of $9,000 on November 1, 1942, and in the amount of $8,000 on each May 1 and November 1 in each year thereafter to and including November 1, 1951.

PENNSYLVANIA. — *Abandonment by the Pennsylvania, Ohio & Detroit.*—The Pennsylvania, Ohio & Detroit has asked the Interstate Commerce Commission for authority to abandon a line extending from Trinway, Ohio, to Blissfield, 21 miles, and from Warsaw Junction, Ohio, to Coshocton, nine miles; while the Pennsylvania has asked authority to abandon operation over those portions of these lines from Tunnel Hill, Ohio, to Blissfield, 10 miles, and from Warsaw Junction, Ohio, to Coshocton, nine miles.

PERE MARQUETTE.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a branch line extending from Ionia, Mich., northerly to a connection with its line at Kidd, 11.9 miles.

PORT SAN LUIS TRANSPORTATION.—*Acquisition, Operation, and Stock.*—This newly-organized company has asked the Interstate Commerce Commission for authority to purchase and operate the railroad, equipment, and appurtenances of the Pacific Coast, extending from San Luis Obispo, Calif., to Port San Luis, 12 miles. The new company will pay $17,265 for the line, and has also sought I. C. C. approval to issue 300 shares of common stock of a par value of $100 to provide the necessary funds for the purchase price and working capital.

READING. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a portion of its Schuylkill & Susquehanna branch extending in an easterly direction from Pine Grove, Pa., to Auchenbach, 1.6 miles.

READING.—*Abandonment by the Mine Hill & Schuylkill.* — The Mine Hill & Schuylkill and the Reading, respectively, have asked the Interstate Commerce Commission for authority to abandon various segments of lines leading to collieries, and the operation thereof, totaling 5.9 miles, all in Schuylkill County, Pa.

ROSCOE, SNYDER & PACIFIC.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a line extending from Snyder, Tex., to Fluvanna, 17.8 miles.

SEABOARD AIR LINE.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to amend its application of September 29, 1941, wherein it sought ICC approval of a plan to issue and sell to the Reconstruction Finance Corporation $3,552,000 of 2½ per cent equipment trust certificates. Specifically, the company informs the commission that it will be unable to procure the delivery of three Diesel-electric freight locomotives from the Electro-Motive Corporation, and desires to reduce the amount of the issue by $1,476,701, the cost of the locomotives. As a result, the total cost of the equipment will be cut from $4,838,479 to $3,361,778, and the amount of the certificates will be reduced from $3,552,000 to $2,448,000. The new certificates will bear interest at the rate of 2½ per cent and will mature in 24 equal annual installments beginning April 1, 1942. Details of the original application were given in the *Railway Age* of October 4, page 558.

SOUTHERN. — *Abandonment, Operation, Joint Operation, and Acquisition by the Harriman & Northeastern.*—The Harriman & Northeastern has been authorized by Division 4 of the Interstate Commerce Commission to abandon a line extending from Harriman, Tenn., to DeArmond, 4.5 miles. At the same time it has been permitted to acquire and operate 1,330 ft. of track connecting its line with the line of the Southern near DeArmond, Tenn., and to jointly use a line of the Southern from DeArmond, Tenn., to Harriman, 3.5 miles.

The abandonment was necessitated by the fact that the Tennessee Valley Authority is constructing a dam which will inundate the company's tracks. The TVA will construct the connecting track and will transfer the line to the Harriman & Northeastern.

SOUTHERN PACIFIC.—*Abandonment by the El Paso & Southwestern.*—The El Paso & Southwestern and the Southern Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation thereof, extending from Lawrence, N. Mex., to Valedon, 0.4 mile.

SOUTHERN PACIFIC. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a portion of the so-called Coalinga branch extending from Coalinga, Calif., southerly to the end of the branch at Crump, 0.8 mile.

SOUTHERN PACIFIC.—*Abandonment by the El Paso & Southwestern.*—The El Paso & Southwestern and the Southern Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon that part of a line and the operation thereof extending from Milepost 986.277 to Milepost 990.475, 4.2 miles, all in Pima County, Ariz.

SOUTHERN PACIFIC. — *Abandonment by the Pacific Electric.*—The Pacific Electric has been authorized by Division 4 of the Interstate Commerce Commission to abandon the following lines:

1. From Alhambra, Calif., in an easterly direction to the end of the line at Temple City, 5.1 miles;
2. 1.1 miles of track in San Gabriel, Calif.;
3. 1.5 miles of track in Pomona, Calif.; and
4. From San Bernardino, Calif., westerly to the end of the line in Colton, four miles.

TEXAS & PACIFIC.—*Abandonment.*—This company would not be permitted to abandon the portion of its so-called Eunice branch extending from Ville Platte, La., southwesterly to the end of the branch at Eunice, 15 miles, if Division 4 of the Interstate Commerce Commission adopts a recommended order of its Examiner Lucian Jordan.

"While the record indicates that the line was operated at a loss during the years 1936-39, inclusive," writes the examiner, "It is apparent that operations were profitable in 1940. It is also apparent from the record that the volume of traffic on the line, and the revenues derived therefrom, will increase in the near future."

WABASH.—*Sold At Auction.*—Reorganization managers, on December 1, purchased the Wabash at auction for $31,030,950, subject to the approval of the United States District court. The sale, held at St. Louis, is in line with a reorganization plan approved by the district court last August. This plan reduces capitalization from $330,759,265 to $192,647,795 and fixed interest charges from $7,391,362 to $2,558,418.

Average Prices of Stocks and Bonds

	Dec. 2	Last week	Last year
Average price of 20 representative railway stocks..	28.31	28.89	29.82
Average price of 20 representative railway bonds..	62.91	64.82	59.92

Dividends Declared

Atchison, Topeka & Santa Fe.—Preferred, $2.50, semi-annually, payable February 2, 1942, to holders of record December 31.

Boston & Albany.—$2.25, payable December 31 to holders of record November 29.

Norfolk & Western.—Extra, $5.00, payable December 19 to holders of record November 29.

Pittsburgh, Ft. Wayne & Chicago.—Common, $1.75, quarterly, payable January 2, 1942, to holders of record December 10; Preferred, $1.75, quarterly, payable January 6, 1942, to holders of record December 10.

Reading.—2nd Preferred, 50¢, quarterly, payable January 8, 1942, to holders of record December 18.

Continued on second left-hand page

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UNION PACIFIC

"Big Boy"

Meets Severe Demands of Intensive Heavy High-Speed Freight Service

AN ORDER of 20 single-expansion, articulated locomotives of the 4-8-8-4 type is being delivered to the Union Pacific by the American Locomotive Company. These locomotives are the largest in size and heaviest in point of total engine and tender weight of any simple articulated eight-coupled locomotives which have been built. The length over couplers is 132 ft. 9⅞ in.; the weight of engine and tender 1,197,800 lb., and tractive force, 135,375 lb. The locomotives are also notable for many refinements affecting their performance.

"Big Boy" can operate on any part of the Union Pacific — is capable of speeds up to 80 miles per hour, and can deliver maximum power output continuously at 70 miles per hour. These locomotives will haul maximum tonnage and maintain schedules without helper service over the Wahsatch Mountains on a ruling grade of 1.14 per cent between Ogden, Utah, and Green River, Wyoming.

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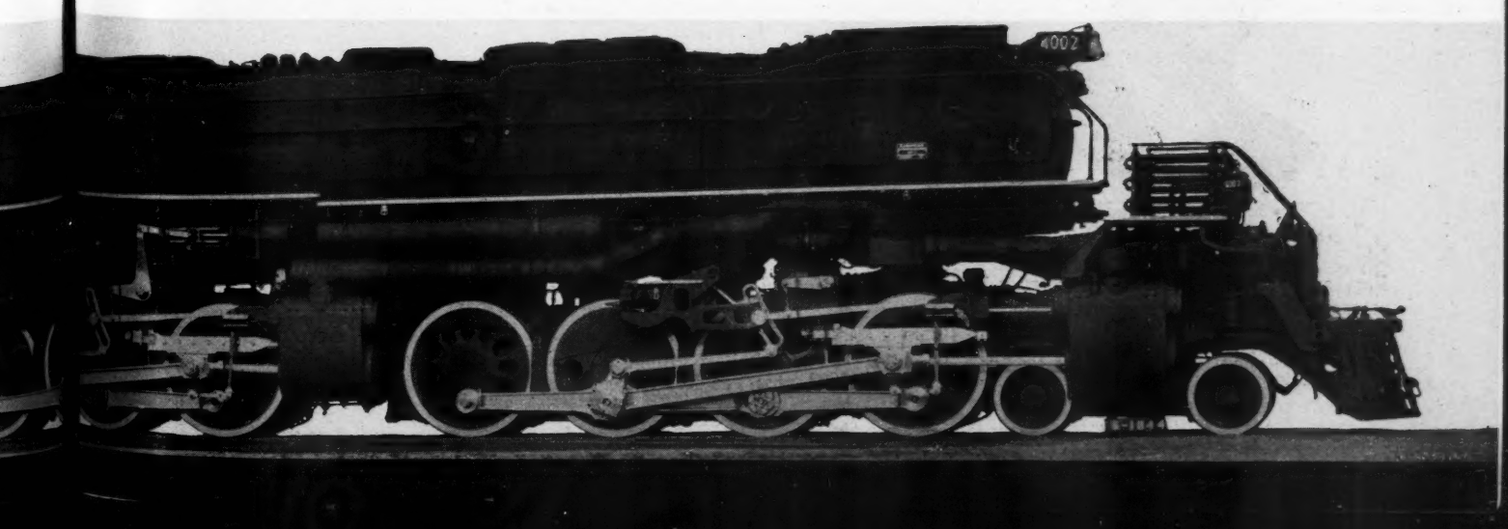


Railway Officers

EXECUTIVE

John W. Smith, vice-president and general manager of the Boston & Maine and general manager of the Maine Central and Portland terminal, has been appointed vice-president—operating of these companies, with headquarters as before at Boston, Mass.

Clarence D. Johnson, whose promotion to assistant to the president on the Texas & Pacific, with headquarters at New Orleans, La., was reported in the *Railway Age* of November 15, was born at Hondo, Tex., on November 5, 1880, and entered railway service on February 22, 1896, as a call boy on the Texas & Pacific at El Paso, Tex. He later worked in various clerical capacities and in 1907 he was promoted to agent at El Paso. In 1917 Mr. Johnson was promoted to trainmaster and in 1918 to assistant to the superintendent at Ft. Worth, Tex. In 1920 he was appointed general agent at El Paso, which position he held until his recent promotion, effective October 15.

Henry E. Poulterer, freight traffic manager of the Western Pacific, has been elected vice-president in charge of traffic, with headquarters as before at San Francisco, Cal., a position that has been vacant since the death of James F. Hogan on August 29, 1938. Mr. Poulterer was born at Portland, Ore., in 1888, and obtained his first railway experience in 1905 as a messenger on the Great Northern. In the following year he became connected with the general freight office of the Union Pacific at Portland. In 1912 he was promoted to contracting freight agent with this company and in 1918 he was further advanced to traveling freight agent. In May, 1920, Mr. Poulterer became associated with the joint traffic department of the

Henry E. Poulterer

Port and Dock Commission of Portland, returning to the Union Pacific six months later as chief clerk to the assistant freight traffic manager at Omaha. In 1925 he was promoted to general agent, freight department, at Kansas City, Mo., and two years later he was made assistant general freight agent at Omaha. In 1931 he severed his connection with the Union Pacific to become assistant freight traffic manager of the Western Pacific, with headquarters at San Francisco, and in June, 1937, he was advanced to freight traffic manager.

L. W. Horning, assistant to vice-president, personnel, New York Central system, has been appointed manager, personnel, with headquarters as before at New York, succeeding **John G. Walber,** vice-president, personnel, who retired on December 1, after 56 years of railroad service. **W. G. Abriel,** assistant to vice-president, personnel, has been appointed assistant manager, personnel. Mr. Horning was born at Seymour, Ind., on November 2, 1898, and attended Indiana University and Benjamin Harrison law school in Indianapolis. He entered the service of the American Express Company on April 16, 1916, at Indianapolis and served with that company and its successors, the American Railway Express Company and the Railway Express Agency, Inc., successively as chief clerk, terminal agent, superintendent of ve-

L. W. Horning

hicles, route agent and attorney. Mr. Horning was admitted to the bar on May 10, 1927, and represented the Railway Express Agency exclusively until August 1, 1933, when he was employed as attorney for the legal committee of 18 Indiana railroads and the Railway Express Agency, Inc. For a short time Mr. Horning was secretary of the Legislative committee, Indiana Lines, and for three years was chairman of the Legislative committee, Railroad Employee's and Taxpayers' Association of Indiana. He also served as a director of the Indianapolis Convention and Publicity Bureau until August, 1936, when he was appointed regional director, Eastern region, Competitive Transportation Research, Association of American Railroads, at New York. Mr. Horning has been assistant to vice-president—personnel since January 1, 1941.

Mr. Walber was born at Cincinnati, Ohio, on April 12, 1871, and entered railroad service in 1885 as clerk in the office of the president and general manager of the Ohio & Mississippi railway (now Baltimore & Ohio) at Cincinnati, serving with this road until 1892. He was secretary to vice-president and traffic manager of the Baltimore & Ohio Southwestern (now Baltimore & Ohio) at St. Louis, Mo., from 1892 to 1896, then serving as chief clerk and assistant to vice-president and general

John G. Walber

manager at Cincinnati. From 1908 to 1914 Mr. Walber was general superintendent transportation, assistant general manager and assistant to vice-president, successively, of the Baltimore & Ohio, the Baltimore & Ohio Southwestern and the Cincinnati, Hamilton & Dayton (now B. & O.). He served as executive secretary, Bureau of Information of the Eastern Railways at New York from 1914 to 1922. During federal control Mr. Walber was also a member of the Board of Adjustment No. 1 and labor assistant, Division of Operation, U. S. Railroad Administration at Washington, D. C. Mr. Walber has been vice-president, personnel of the New York Central since 1922.

Grant W. G. McConachie has been appointed assistant to the vice-president, Western lines, with headquarters at Winnipeg, Man. Mr. McConachie will supervise the Canadian Pacific air services north of and west of the Great Lakes and will perform such other duties as may be assigned.

FINANCIAL, LEGAL AND ACCOUNTING

A. S. Trundle, assistant to comptroller of the Atlantic Coast Line, has been promoted to assistant comptroller, with headquarters as before at Wilmington, N. C.

H. S. Anderson, assistant general solicitor of the Pullman Company, has been promoted to general solicitor, with headquarters as before at Chicago, succeeding **Charles S. Williston,** whose death on November 22 was reported in the *Railway Age* of November 29. **W. J. Butler,** assistant general attorney, has been advanced to general attorney.

R. S. Hervey, auditor freight accounts of the Pittsburgh & Lake Erie, has been appointed auditor of revenues, with headquarters as before at Pittsburgh, Pa. **A. Shield** has been appointed assistant auditor of revenues and **Herman Strahl** has been appointed assistant to auditor of revenues, both with headquarters at Pittsburgh. The

titles of auditor freight accounts, assistant auditor freight accounts and auditor passenger accounts have been abolished.

Walter L. Price, assistant to vice-president and comptroller of the Baltimore & Ohio, has been appointed assistant comptroller in charge of revenue accounts, with headquarters as before at Baltimore, Md., succeeding **Joseph P. O'Malley,** who retired from active duty on December 1 after 46 years of service with this road. **James W. Myers,** chief clerk to the vice-president and comptroller, has been promoted to general accountant, with headquarters at Baltimore.

Mr. Price was born on April 10, 1895, at Shrewsbury, Pa., and entered the service of the Baltimore & Ohio in 1912 in the office of the auditor of freight traffic, successively holding clerical and secretarial positions in the offices of the auditors of coal and coke receipts, freight traffic, passenger traffic and of the general auditor. In 1917, Mr. Price was furloughed for military service. He returned to the Baltimore & Ohio in July, 1919, as secretary to federal auditor, and when the railroads were returned to private operation and management, he became secretary to comptroller. On June 17, 1936, Mr. Price was promoted to assistant to vice-president and comptroller, the position he held until his recent appointment.

Mr. O'Malley was born on March 19, 1873, at Youngstown, Ohio, and entered the service of the Cleveland, Lorain & Wheeling (now Baltimore & Ohio) at Cleveland, Ohio, in August, 1895. From January to September, 1898, he was with the Erie traffic department at Cleveland, returning to the Cleveland, Lorain & Wheeling in October, 1898, in the accounting department. From February 1, 1902, to June, 1913, Mr. O'Malley held various positions with the Baltimore & Ohio, including clerk, assistant chief clerk and chief clerk to auditor coal and coke receipts and later served as chief clerk to auditor merchandise receipts. From July to December,

Walter L. Price

1913, he served as assistant auditor merchandise receipts and in January, 1914, he was appointed auditor merchandise receipts, which position he held until federal control, then becoming auditor of revenues for the same road. In March, 1920, Mr. O'Malley was appointed assistant comptroller, the position he held until his retirement.

James Williams, assistant treasurer of the Alton, has been elected secretary-treasurer, with headquarters as before at Chicago. Mr. Williams was born at Northport, N. Y., on June 20, 1887, and entered railway service on February 7, 1906, in the president's office of the Colorado & Southern at New York. On April 12, 1908, he went with the Chicago & Alton (now the Alton) in the secretary's office at New York. On August 27, 1908, he was promoted to assistant treasurer and on November 1, 1908, he was also appointed assistant secretary, with headquarters at New York. On October 1, 1922, the financial offices of the Chicago & Alton were transferred to Chicago. A year later Mr. Williams was promoted to treasurer and in 1925 he was also appointed secretary. In 1931, after the acquisition of the Alton by the Baltimore & Ohio was approved by the Interstate Commerce Commission, Mr.

James Williams

Williams was appointed assistant treasurer, the position he held until his recent promotion.

OPERATING

Leo V. Funk, freight agent of the Delaware, Lackawanna & Western at Binghamton, N. Y., has been promoted to manager of station service, reporting to the vice-president of operation.

J. M. Ford has been appointed trainmaster of the Southern, with headquarters at Richmond, Va., succeeding **O. B. Keister, Jr.,** who has been transferred to Charlottesville, Va.

Frank W. Rourke, general superintendent of the Boston & Maine, the Maine Central and the Portland Terminal, has been promoted to general manager of these companies, with headquarters as before at Boston, Mass. **Frederick W. Buckpitt,** superintendent of locomotive maintenance, has been appointed operating assistant, reporting to the general manager of the three companies.

Mr. Rourke was born at Somerville, Mass., on February 7, 1892, and was graduated from Tufts College in 1915 with the degree of bachelor of science in civil engineering. He entered railroad service in 1907 as telegraph operator on the Boston & Maine, serving successively until 1923 as assistant agent, towerman and train

Frank W. Rourke

dispatcher, with the exception of the period from 1917 to 1919 when he served as first lieutenant and captain, U. S. Engineers. From 1923 to 1926, Mr. Rourke was trainmaster of the White Mountain division of the Boston & Maine, and served as general superintendent of the Mystic Terminal Company from 1926 to 1932. From 1931 to 1932 he was also assistant freight traffic manager of the Boston & Maine. In 1932 Mr. Rourke became general superintendent of the Boston & Maine and in 1933 he also became general superintendent of the Maine Central and Portland Terminal.

Samuel Gale Raber, whose appointment as superintendent of telegraph and signals of the New York, Chicago & St. Louis (Nickel Plate), with headquarters at Cleveland, effective November 1, was reported in the *Railway Age* of November 8, was born at Columbia City, Ind., on August 2, 1892, and attended Purdue University, from 1910 to 1912. He entered railway service on June 12, 1912, on the Ft. Wayne division of the Pennsylvania, as a signal

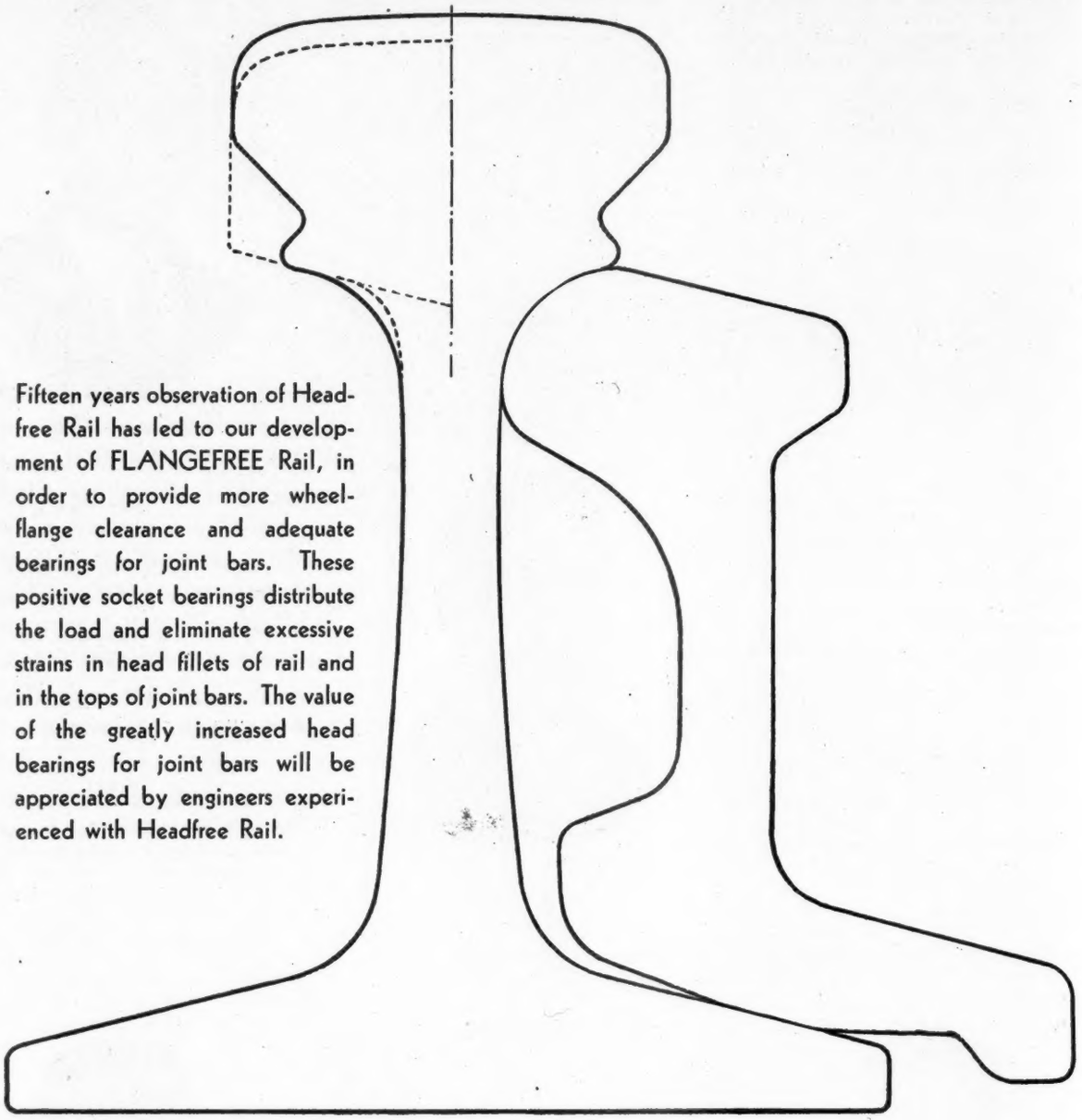
Samuel Gale Raber

repairman, later serving as a signal wireman and foreman on the Marion division of the Erie. On October 5, 1914, Mr. Raber went with the Louisville & Nashville as signal wireman and maintainer on the

(*Continued on page 980*)

Freight Operating Statistics appear on second left-hand page

FLANGEFREE RAIL



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We are not advocating any change in standards during the present emergency. Flangefree rail is submitted at this time for your attention and consideration.

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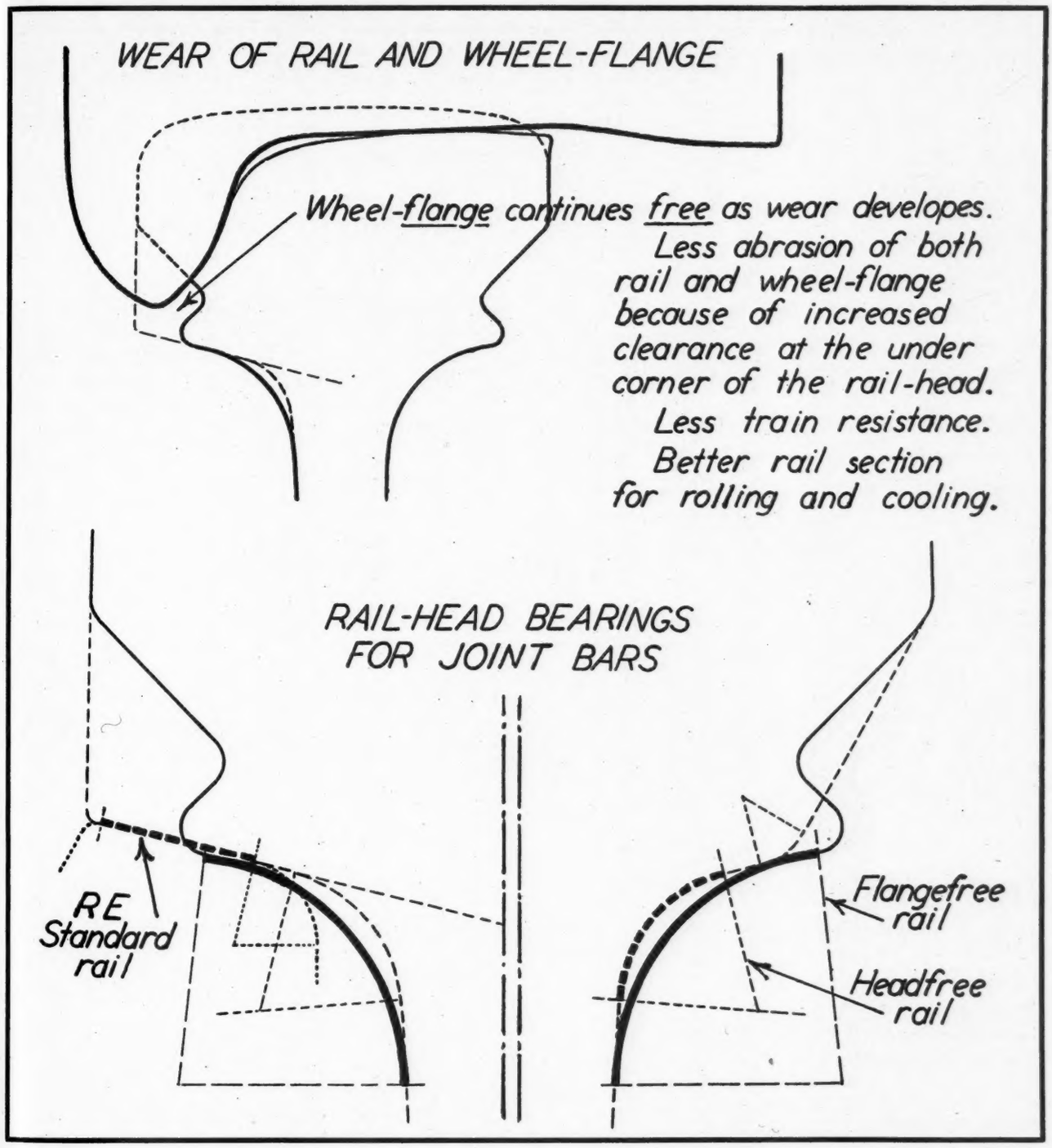
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Wheel-flange continues free as wear developes.
Less abrasion of both rail and wheel-flange because of increased clearance at the under corner of the rail-head.
Less train resistance.
Better rail section for rolling and cooling.
RAIL-HEAD BEARINGS FOR JOINT BARS
RE Standard rail
Flangefree rail
Headfree rail

ON RAIL CORPORATION

W YORK

ing, Philadelphia, Pa.

Freight Operating Statistics of Large Steam Railways—Selected Items

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excluding locomotives and tenders	Ton-miles (*thousands*): Net revenue and non-revenue	Number of road locomotives on line: Serviceable: Not stored	Number of road locomotives on line: Serviceable: Stored	Number of road locomotives on line: Unserviceable	Number of road locomotives on line: Per cent unserviceable
New England Region:												
Boston & Albany	1941 362	157,030	165,723	15,034	3,763	66.9	224,763	88,710	66	5	16	18.4
	1940 362	134,229	138,132	9,799	2,999	67.5	171,108	63,400	47	11	27	31.8
Boston & Maine	1941 1,894	332,518	380,825	35,381	12,482	72.0	716,288	300,705	144	4	26	14.9
	1940 1,892	269,432	299,538	24,787	9,535	70.4	534,754	207,868	126	..	44	25.9
N. Y., New Hav. & Hartf.†	1941 1,820	420,268	526,182	39,314	15,816	70.3	868,724	352,299	196	1	62	24.3
	1940 1,843	332,085	417,156	28,624	12,531	68.9	680,715	264,783	178	11	68	25.2
Great Lakes Region:												
Delaware & Hudson	1941 849	320,404	373,813	40,759	11,931	66.3	796,088	390,366	127	30	83	34.6
	1940 846	233,890	280,875	31,131	8,427	65.0	535,928	259,906	126	45	81	32.1
Del., Lack. & Western	1941 983	381,938	433,540	60,721	15,575	72.7	935,703	419,803	144	8	51	25.1
	1940 983	339,191	383,581	52,261	12,682	69.6	737,323	298,515	140	13	52	25.4
Erie (incl. Chi. & Erie)‡	1941 2,250	840,550	890,522	52,877	38,428	67.9	2,364,051	950,696	262	37	116	28.0
	1940 2,268	722,426	771,549	51,538	32,872	65.6	2,051,796	783,956	233	17	175	41.2
Grand Trunk Western	1941 1,023	265,991	269,283	2,082	8,462	64.1	524,954	197,302	70	..	17	19.5
	1940 1,023	219,028	222,095	1,559	6,990	63.8	430,852	158,684	72	7	19	19.4
Lehigh Valley	1941 1,251	392,596	429,906	65,208	15,974	68.6	1,014,435	459,194	138	17	33	17.6
	1940 1,252	320,294	352,280	55,041	13,200	68.0	829,450	367,651	117	4	95	44.0
New York Central	1941 10,519	3,223,085	3,444,327	220,060	117,150	63.1	7,929,762	3,539,586	1,058	107	236	16.8
	1940 10,563	2,661,499	2,831,183	176,587	94,454	61.5	6,415,616	2,787,621	882	122	369	26.9
N. Y., Chicago & St. Louis	1941 1,672	632,346	646,943	8,943	24,428	68.8	1,484,314	625,088	150	2	15	9.0
	1940 1,672	509,659	519,240	6,813	19,399	64.6	1,192,071	469,682	126	11	29	17.5
Pere Marquette	1941 2,068	389,070	400,292	8,520	11,275	67.0	715,243	308,067	132	..	23	14.8
	1940 2,080	337,962	346,197	6,961	9,531	62.1	622,971	249,962	114	6	37	23.6
Pittsburgh & Lake Erie	1941 232	97,152	100,937	....	4,211	63.2	361,194	210,065	44	..	19	30.2
	1940 233	86,231	89,154	....	3,595	62.8	309,750	179,935	35	8	22	33.8
Wabash*	1941 2,397	616,928	628,712	13,097	21,823	71.4	1,280,839	522,594	149	23	89	34.1
	1940 2,397	555,595	568,015	12,000	18,615	65.7	1,112,481	405,733	131	26	107	40.5
Central Eastern Region:												
Baltimore & Ohio	1941 6,245	1,994,330	2,508,580	281,923	67,345	64.5	4,665,147	2,217,543	842	71	224	19.7
	1940 6,262	1,552,963	1,947,837	212,827	52,255	63.3	3,618,156	1,674,836	699	132	354	29.9
Central of New Jersey†	1941 665	212,572	238,156	44,205	6,759	63.2	472,699	233,894	90	14	43	29.3
	1940 679	164,391	184,513	33,729	5,343	61.5	374,241	179,832	69	10	62	44.0
Chicago & Eastern Illinois	1941 925	183,017	183,168	3,068	5,072	68.2	314,368	138,574	59	6	22	25.3
	1940 925	165,088	165,380	3,082	4,381	66.6	274,381	118,818	58	..	33	36.3
Elgin, Joliet & Eastern	1941 390	126,902	128,481	1,335	3,582	61.7	276,600	141,500	63	1	13	16.9
	1940 390	109,983	110,956	1,245	2,912	59.3	228,308	113,627	57	..	21	26.9
Long Island	1941 375	29,981	31,346	19,609	323	53.2	23,755	8,951	38	4	6	12.5
	1940 375	26,989	28,297	16,323	287	52.2	21,565	8,004	34	8	6	12.5
Pennsylvania System	1941 9,954	4,018,789	4,751,212	588,146	158,157	64.7	10,911,258	5,191,967	1,759	77	311	14.5
	1940 9,966	3,123,053	3,755,649	440,270	121,927	62.1	8,529,320	3,919,838	1,332	99	759	34.7
Reading	1941 1,430	522,514	581,558	72,295	16,461	65.4	1,178,219	607,510	241	20	68	20.7
	1940 1,441	423,015	471,191	59,346	13,084	63.8	945,508	472,910	216	8	151	40.3
Pocahontas Region:												
Chesapeake & Ohio	1941 3,053	1,008,841	1,073,119	46,319	47,780	56.8	4,072,939	2,236,834	410	19	66	13.3
	1940 3,044	872,411	923,899	42,085	40,989	56.9	3,444,095	1,881,637	380	52	75	14.8
Norfolk & Western	1941 2,167	755,428	793,279	43,614	34,784	57.9	2,927,760	1,555,900	295	22	20	5.9
	1940 2,169	685,282	714,147	37,576	32,584	58.0	2,720,149	1,436,988	291	33	26	7.4
Southern Region:												
Atlantic Coast Line	1941 5,050	643,150	653,820	9,526	15,176	66.0	934,208	387,585	262	30	46	13.6
	1940 5,074	538,049	544,181	7,583	12,283	64.3	735,998	281,258	231	48	53	16.0
Central of Georgia†	1941 1,831	289,275	292,481	4,630	6,689	72.8	391,020	169,584	98	..	19	16.2
	1940 1,831	259,154	261,550	3,648	5,854	74.2	320,006	129,070	97	..	23	19.2
Gulf, Mobile and Ohio	1941 1,962	275,210	320,680	2,496	9,036	69.2	549,116	240,485	97	4	8	7.3
	1940 1,960	229,706	253,047	1,935	7,132	71.2	413,246	180,410	85	9	10	9.6
Illinois Central (incl. Y. & M. V.)	1941 6,521	1,572,668	1,579,796	27,530	49,153	63.4	3,250,620	1,415,743	602	14	110	15.2
	1940 6,557	1,239,858	1,242,954	24,176	39,069	63.5	2,547,981	1,095,744	591	47	154	19.4
Louisville & Nashville	1941 4,794	1,362,888	1,473,196	38,443	34,959	60.9	2,508,340	1,233,771	352	75	41	8.8
	1940 4,862	1,110,279	1,204,887	32,076	28,804	60.6	2,038,674	987,504	350	41	78	16.6
Seaboard Air Line*	1941 4,295	670,576	711,093	6,654	16,858	66.3	1,074,855	472,988	250	..	57	18.6
	1940 4,301	489,150	508,584	3,919	12,401	64.9	741,336	290,517	225	20	58	19.1
Southern	1941 6,521	1,741,500	1,771,653	25,524	39,937	67.7	2,406,083	1,032,873	534	1	119	18.2
	1940 6,548	1,401,854	1,428,259	21,042	33,312	68.1	1,931,184	791,457	490	..	150	23.4
Northwestern Region:												
Chicago & North Western†	1941 8,280	1,050,576	1,090,868	23,476	33,567	65.0	2,203,120	889,526	342	17	208	36.7
	1940 8,319	921,060	963,733	18,027	29,409	62.4	1,914,483	764,634	330	21	247	41.3
Chicago Great Western	1941 1,447	285,214	290,082	12,400	9,247	66.9	577,122	231,693	71	1	12	14.3
	1940 1,447	258,485	260,444	8,304	8,019	62.8	506,004	187,393	69	2	17	19.3
Chi., Milw., St. P. & Pac.†	1941 10,843	1,531,344	1,593,633	61,439	47,621	63.4	3,159,016	1,371,413	489	24	102	16.6
	1940 10,850	1,295,082	1,352,027	55,355	40,700	61.9	2,657,166	1,099,647	451	52	123	19.6
Chi., St. P., Minn. & Omaha	1941 1,618	243,305	259,222	11,392	6,204	66.8	390,696	162,976	113	7	17	12.4
	1940 1,619	229,132	240,791	10,751	5,614	66.2	351,955	145,410	104	18	12	9.0
Great Northern	1941 7,977	1,213,913	1,215,152	40,332	44,996	60.9	3,295,848	1,536,128	392	8	95	19.2
	1940 7,973	1,043,903	1,042,531	33,437	39,018	58.7	2,900,609	1,316,364	376	24	126	24.0
Minneap., St. P. & S. St. M.†	1941 4,251	490,997	501,049	7,076	13,088	65.4	870,198	398,094	131	....	9	6.4
	1940 4,250	446,665	453,583	6,025	11,410	61.5	753,835	338,237	127	....	7	5.2
Northern Pacific	1941 6,414	963,432	1,025,037	69,516	35,314	67.9	2,266,923	1,019,536	350	13	65	15.2
	1940 6,422	773,954	817,325	48,112	27,758	64.2	1,771,912	745,135	344	23	74	16.8
Central Western Region:												
Alton	1941 915	222,521	245,819	1,356	5,569	65.0	351,355	143,221	65	2	11	14.1
	1940 914	196,621	210,550	1,065	4,596	63.7	290,718	111,323	61	7	18	20.9
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1941 13,431	2,614,643	2,880,088	180,393	80,180	64.9	5,178,488	1,891,229	717	42	120	13.7
	1940 13,409	2,014,990	2,171,104	117,390	61,994	63.6	3,950,666	1,318,475	603	67	169	20.1
Chicago, Burl. & Quincy	1941 8,923	1,394,013	1,439,975	58,346	44,607	64.6	2,860,538	1,202,103	445	14	87	15.9
	1940 8,924	1,195,402	1,227,600	42,796	38,785	64.4	2,412,446	976,044	429	38	82	14.9
Chi., Rock I. & Pac.†	1941 7,917	1,241,033	1,269,605	11,962	33,398	65.5	2,101,344	881,365	361	4	126	25.7
	1940 7,867	1,088,329	1,105,480	8,018	28,520	62.1	1,799,066	700,013	326	19	188	35.3
Denver & Rio Gr. Western†	1941 2,547	458,396	521,963	66,914	13,303	67.9	860,601	365,288	174	4	12	6.3
	1940 2,554	369,382	413,796	49,565	10,921	63.8	703,210	279,032	159	16	15	7.9
Southern Pac.—Pac. Lines	1941 8,504	2,045,732	2,275,612	333,818	76,194	65.3	4,943,911	1,932,725	737	11	122	14.0
	1940 8,535	1,604,016	1,741,609	207,807	58,442	64.0	3,753,305	1,362,376	607	22	142	18.4
Union Pacific	1941 9,872	3,091,040	3,201,093	182,927	92,365	64.6	5,796,003	2,210,343	751	13	90	10.5
	1940 9,907	2,242,642	2,326,970	133,624	73,116	61.2	4,623,501	1,593,324	598	44	192	23.1
Southwestern Region:												
Mo.-Kansas-Texas Lines	1941 3,281	416,836	454,816	7,874	12,089	67.0	720,794	283,779	87	....	90	50.8
	1940 3,281	372,508	375,206	6,062	9,767	66.2	570,876	210,352	82	....	95	53.7
Missouri Pacific†	1941 7,110	1,368,559	1,412,166	26,395	41,849	66.5	2,702,346	1,145,837	423	15	61	12.2
	1940 7,116	1,154,778	1,190,821	25,794	35,165	65.1	2,237,496	915,241	387	50	75	14.6
Texas & Pacific	1941 1,891	280,290	280,290	1,666	9,885	69.6	591,822	236,866	86	26	76	40.4
	1940 1,882	231,285	231,285	1,379	8,177	66.7	498,307	193,914	62	27	104	53.9
St. Louis-San Francisco†	1941 4,730	813,971	835,573	14,557	19,284	65.0	1,220,498	506,933	274	11	37	11.5
	1940 4,735	659,172	673,374	9,337	15,423	64.4	967,781	393,908	280	44	32	9.0
St. Louis-San Fran. & Texas	1941 159	28,481	28,646	44	463	63.9	29,866	10,906	10	2	2	14.3
	1940 159	23,934	24,032	....	382	68.3	22,668	9,048	9	2	1	8.3
St. Louis Southw. Lines†	1941 1,600	335,153	341,103	4,431	10,807	73.6	618,987	261,316	89	10	24	19.5
	1940 1,633	235,775	238,495	3,068	7,010	73.6	385,466	125,844	72	28	12	10.7
Texas & New Orleans	1941 4,415	756,318	756,471	5,005	19,674	67.4	1,254,707	526,450	235	15	18	6.7
	1940 4,415	611,004	611,027	6,544	15,528	67.0	960,314	381,377	209	9	46	17.4

* Report of receivers.
† Report of trustee or trustees.
‡ Under trusteeship, Erie R. R. only.

for the Month of September, 1941, Compared with September, 1940

Region, road, and year	Number of freight cars on line: Home	Foreign	Total	Per cent unserviceable	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive miles per locomotive-day
New England Region:													
Boston & Albany 1941	645	4,756	5,401	1.1	24,447	1,452	573	23.6	520	33.0	8,169	122	75.3
1940	812	4,664	5,476	1.5	21,856	1,294	479	21.1	394	27.6	5,838	141	62.5
Boston & Maine 1941	3,514	11,101	14,615	2.3	30,242	2,163	908	24.1	702	40.5	5,292	90	87.2
1940	4,537	7,992	12,529	3.8	28,017	1,991	774	21.8	590	38.4	3,662	92	68.5
N. Y., New Hav. & Hartf.† 1941	3,931	18,073	22,004	2.8	29,751	2,100	851	22.3	531	33.9	6,452	97	80.8
1940	6,548	13,570	20,118	4.3	28,928	2,081	809	21.1	465	31.9	4,789	101	64.7
Great Lakes Region:													
Delaware & Hudson 1941	5,693	6,139	11,832	4.4	39,488	2,504	1,228	32.7	1,152	53.1	15,327	99	61.8
1940	8,020	4,001	12,021	3.9	35,415	2,305	1,118	30.8	734	36.6	10,241	109	43.6
Del., Lack. & Western 1941	6,491	10,436	16,927	3.8	41,502	2,476	1,111	27.0	804	41.0	14,235	118	86.2
1940	9,911	7,047	16,958	6.1	38,692	2,199	890	23.5	591	36.1	10,123	120	75.2
Erie (incl. Chi. & Erie)‡ 1941	10,543	22,986	33,529	2.4	48,893	2,833	1,139	24.7	951	56.7	14,084	87	82.8
1940	12,823	16,837	29,660	2.9	49,278	2,864	1,094	23.8	893	57.1	11,522	88	71.4
Grand Trunk Western 1941	3,544	7,804	11,348	3.9	36,526	1,986	746	23.3	558	37.3	6,429	82	109.8
1940	4,177	7,660	11,837	6.8	36,838	1,974	727	22.7	449	31.0	5,171	85	83.4
Lehigh Valley 1941	6,277	13,389	19,666	1.1	48,675	2,631	1,191	28.7	763	38.7	12,235	99	94.8
1940	8,127	11,616	19,743	1.6	49,835	2,627	1,164	27.9	639	33.8	9,788	100	66.7
New York Central 1941	63,098	79,898	142,996	6.3	40,539	2,485	1,109	30.2	829	43.4	11,216	93	98.8
1940	77,398	62,656	140,054	11.6	40,035	2,429	1,055	29.5	647	35.6	8,797	91	82.4
N. Y., Chicago & St. Louis.. 1941	4,688	11,849	16,537	1.7	43,060	2,351	990	25.6	1,271	72.2	12,462	82	140.8
1940	5,266	10,041	15,307	3.1	43,118	2,344	924	24.2	1,045	66.8	9,364	80	114.0
Pere Marquette 1941	5,976	8,260	14,236	2.9	31,295	1,848	796	27.3	716	39.1	4,966	87	97.0
1940	7,138	8,075	15,213	3.6	31,125	1,850	742	26.2	549	33.7	4,006	87	82.8
Pittsburgh & Lake Erie 1941	5,495	8,801	14,296	10.2	49,635	3,724	2,166	49.9	466	14.8	30,182	77	59.8
1940	11,052	6,426	17,478	25.6	46,769	3,600	2,091	50.1	335	10.7	25,742	70	51.3
Wabash* 1941	8,193	12,497	20,690	1.3	41,467	2,094	854	23.9	850	49.7	7,267	101	86.8
1940	10,509	10,354	20,863	5.1	40,953	2,018	736	21.8	654	45.6	5,642	104	77.0
Central Eastern Region:													
Baltimore & Ohio 1941	44,091	43,741	87,832	2.5	31,857	2,381	1,132	32.9	851	40.1	11,836	131	86.4
1940	49,562	32,474	82,036	6.1	31,638	2,373	1,098	32.1	676	33.4	8,915	130	64.3
Central of New Jersey† 1941	5,026	16,874	21,900	2.9	27,451	2,297	1,137	34.6	362	16.6	11,724	126	85.1
1940	6,928	12,154	19,082	11.4	29,556	2,419	1,162	33.7	321	15.5	8,828	118	66.1
Chicago & Eastern Illinois ... 1941	2,606	3,875	6,481	3.7	30,274	1,734	764	27.3	722	38.7	4,994	113	74.0
1940	2,939	3,235	6,174	6.5	30,589	1,672	724	27.1	627	35.3	4,282	112	65.5
Elgin, Joliet & Eastern 1941	9,326	7,853	17,179	2.8	17,811	2,227	1,139	39.5	271	11.1	12,094	106	82.5
1940	9,410	6,072	15,482	4.3	18,751	2,127	1,059	39.0	237	10.3	9,712	107	69.0
Long Island 1941	59	3,865	3,924	.4	5,640	814	307	27.7	75	5.1	796	311	51.0
1940	139	3,871	4,010	.6	6,200	819	304	27.9	73	5.0	711	307	45.7
Pennsylvania System 1941	144,952	94,167	239,119	7.5	38,558	2,793	1,329	32.8	724	34.1	17,387	102	91.8
1940	181,709	64,278	245,987	15.0	39,121	2,804	1,289	32.1	532	26.6	13,111	102	70.5
Reading 1941	15,025	20,756	35,781	7.5	29,304	2,261	1,166	36.9	568	23.5	14,161	126	77.8
1940	22,611	13,458	36,069	16.0	28,222	2,240	1,121	36.1	446	19.4	10,939	123	56.1
Pocahontas Region:													
Chesapeake & Ohio 1941	38,429	15,963	54,392	1.3	58,330	4,087	2,245	46.8	1,363	51.3	24,422	66	83.8
1940	40,821	14,368	55,189	1.7	57,849	3,988	2,179	45.9	1,138	43.5	20,605	65	70.6
Norfolk & Western 1941	31,143	6,886	38,029	1.6	61,204	3,934	2,091	44.7	1,384	53.4	23,933	81	89.7
1940	32,143	6,825	38,968	2.7	60,692	4,012	2,120	44.1	1,217	47.6	22,084	81	78.3
Southern Region:													
Atlantic Coast Line 1941	10,221	9,503	19,724	7.1	24,505	1,457	605	25.5	653	38.7	2,558	106	70.9
1940	12,707	7,813	20,520	16.1	23,709	1,371	524	22.9	449	30.5	1,848	106	58.6
Central of Georgia† 1941	2,957	6,480	9,437	.7	25,647	1,359	589	25.4	602	32.6	3,087	115	92.3
1940	3,586	3,906	7,492	2.3	24,389	1,242	501	22.0	575	35.1	2,350	115	80.3
Gulf, Mobile and Ohio..... 1941	2,651	4,967	7,618	2.2	35,336	2,004	878	26.6	1,017	55.2	4,086	101	105.2
1940	2,958	3,786	6,744	4.0	34,138	1,803	787	25.3	875	48.6	3,068	103	86.3
Illinois Central (incl. Y. 1941	24,618	26,059	50,677	1.0	32,624	2,103	916	28.8	957	52.4	7,237	112	79.6
& M. V.) 1940	25,778	21,602	47,380	3.7	32,947	2,090	899	28.0	794	44.6	5,570	108	57.5
Louisville & Nashville 1941	31,050	14,033	45,083	2.6	28,623	1,845	907	35.3	894	41.6	8,579	113	115.4
1940	29,997	10,371	40,368	10.6	29,885	1,840	891	34.3	790	38.0	6,770	112	92.7
Seaboard Air Line* 1941	9,366	10,313	19,679	2.2	28,243	1,631	718	28.1	805	43.3	3,671	114	87.3
1940	10,736	6,613	17,349	3.6	26,023	1,532	600	23.4	562	37.0	2,252	116	63.3
Southern 1941	18,198	23,816	42,014	4.7	23,469	1,396	599	25.9	817	46.7	5,280	136	96.7
1940	21,806	20,439	42,245	9.9	23,669	1,386	568	23.8	633	39.1	4,029	132	78.8
Northwestern Region:													
Chicago & North Western†... 1941	27,454	28,337	55,791	6.9	31,521	2,170	876	26.5	531	30.8	3,581	110	70.8
1940	32,695	24,771	57,466	7.7	31,507	2,142	855	26.0	447	27.5	3,064	104	59.4
Chicago Great Western 1941	1,410	4,977	6,387	1.0	36,673	2,028	814	25.1	1,167	69.6	5,337	106	128.2
1940	1,815	5,128	6,943	1.0	35,752	1,960	726	23.4	928	63.2	4,317	109	108.7
Chi., Milw., St. P. & Pac.†... 1941	33,074	24,821	57,895	1.3	33,184	2,073	900	28.8	768	42.0	4,216	109	98.3
1940	38,637	22,197	60,834	2.9	33,324	2,063	854	27.0	596	35.6	3,378	108	83.0
Chi., St. P., Minn. & Omaha. 1941	1,759	7,828	9,587	3.5	21,394	1,639	684	26.3	567	32.3	3,358	106	72.0
1940	2,416	6,537	8,953	4.8	20,246	1,565	646	25.9	505	29.4	2,994	103	67.9
Great Northern 1941	28,351	21,234	49,585	2.2	41,343	2,728	1,272	34.1	1,011	48.6	6,419	90	91.7
1940	32,719	16,469	49,188	3.9	42,422	2,796	1,269	33.7	861	43.5	5,503	87	74.5
Minneap., St. P. & S. St. M.† 1941	9,472	6,650	16,122	2.3	29,699	1,782	815	30.4	813	40.9	3,122	89	125.7
1940	11,462	5,674	17,136	3.4	27,765	1,695	761	29.6	655	36.0	2,653	88	117.0
Northern Pacific 1941	24,325	12,083	36,408	4.5	37,620	2,370	1,066	28.9	935	47.7	5,298	121	93.4
1940	27,299	8,391	35,690	6.7	37,765	2,303	968	26.8	690	40.0	3,868	118	71.2
Central Western Region:													
Alton 1941	949	6,191	7,140	3.5	38,141	1,582	645	25.7	673	40.2	5,218	130	113.0
1940	1,770	5,652	7,422	6.0	37,716	1,485	569	24.2	514	33.3	4,060	122	88.4
Atch., Top. & S. Fe (incl. 1941	54,918	19,426	74,344	4.9	39,165	1,987	726	23.6	816	53.3	4,694	110	122.3
G. C. & S. F. & P. & S. F.). 1940	56,666	12,845	69,511	9.8	39,549	1,966	656	21.3	618	45.7	3,278	108	96.3
Chicago, Burl. & Quincy 1941	22,739	23,137	45,876	1.9	35,117	2,061	866	26.9	895	51.4	4,491	103	97.3
1940	22,152	20,835	42,987	4.6	35,456	2,029	821	25.2	770	47.5	3,646	101	81.9
Chi., Rock I. & Pac.† 1941	13,847	16,246	30,093	3.7	31,234	1,699	713	26.4	954	55.2	3,711	105	92.5
1940	16,122	14,806	30,928	3.9	30,770	1,658	645	24.5	761	49.9	2,966	107	74.5
Denver & Rio Gr. Western†.. 1941	8,717	5,836	14,553	2.8	31,554	1,884	800	27.5	795	42.7	4,781	153	111.2
1940	10,104	5,197	15,301	3.3	31,489	1,911	758	25.6	601	36.9	3,642	147	87.0
Southern Pac.—Pac. Lines... 1941	27,687	43,324	71,011	2.1	34,772	2,437	953	25.4	925	55.9	7,576	100	108.8
1940	27,533	32,129	59,662	4.8	37,968	2,359	856	23.3	770	51.6	5,321	94	89.8
Union Pacific 1941	32,328	38,491	70,819	4.3	40,343	1,898	724	23.9	1,060	68.6	7,463	123	137.5
1940	33,543	26,298	59,841	5.8	45,900	2,077	716	21.8	899	67.4	5,361	112	101.3
Southwestern Region:													
Mo.-Kansas-Texas Lines 1941	4,769	6,035	10,804	13.0	31,646	1,734	683	23.5	909	57.8	2,883	80	92.9
1940	4,778	4,197	8,975	7.2	29,988	1,535	565	21.5	799	56.1	2,137	82	76.4
Missouri Pacific† 1941	12,388	30,252	42,640	1.0	35,286	1,989	843	27.4	949	52.1	5,372	107	104.1
1940	13,937	20,317	34,254	2.6	35,158	1,949	797	26.0	901	53.2	4,287	105	85.3
Texas & Pacific 1941	2,357	6,228	8,585	1.7	40,384	2,115	847	24.0	1,000	59.9	4,175	81	54.2
1940	2,638	5,019	7,657	1.4	41,251	2,156	839	23.7	918	58.1	3,435	79	43.7
St. Louis-San Francisco† 1941	11,052	9,124	20,176	3.1	29,708	1,507	626	26.3	854	50.0	3,572	116	94.1
1940	13,442	6,999	20,441	1.9	28,144	1,475	600	25.5	637	38.7	2,773	114	67.9
St. Louis-San Fran. & Texas. 1941	....	344	344	4.4	22,090	1,050	383	23.6	1,092	72.6	2,286	126	69.9
1940	....	334	334	2.7	18,843	952	380	23.7	887	54.8	1,897	127	67.9
St. Louis Southw. Lines† ... 1941	1,584	4,640	6,224	1.2	35,869	1,853	782	24.2	1,525	85.7	5,444	76	99.0
1940	2,003	3,131	5,134	2.0	31,986	1,639	535	18.0	832	62.9	2,569	83	77.3
Texas & New Orleans 1941	4,328	13,432	17,760	2.6	31,720	1,673	702	26.8	988	54.8	3,975	83	100.8
1940	4,938	11,007	15,945	4.0	29,970	1,586	630	24.6	787	47.8	2,879	85	83.0

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

Railway Officers

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Kentucky division. On May 1, 1915, he left railway service to engage in private business and later served in the U. S. Army. On December 6, 1917, Mr. Raber returned to the Erie as signal foreman on the Mahoning division. He was promoted to maintenance foreman on the same division on March 15, 1918, and to signal supervisor on March 15, 1920. He was appointed general signal inspector of the Erie, with headquarters at Cleveland, Ohio, on November 1, 1929, which position he held until his recent appointment.

A. J. Horton, superintendent of the Colorado & Southern, with headquarters at Denver, Colo., has been appointed superintendent of terminals of the Chicago, Burlington & Quincy, with headquarters at St. Louis, Mo., succeeding **William P. Wilson,** who, in turn, has been appointed superintendent of the C. & S. at Denver, relieving Mr. Horton.

TRAFFIC

Malcolm W. Roper, assistant freight traffic manager on the Western Pacific, has been promoted to freight traffic manager, with headquarters as before at San Francisco, Cal., succeeding **Henry E. Poulterer,** whose promotion to vice-president in charge of traffic is reported elsewhere in these columns. **Wilson G. Curtiss** and **Marshall E. Boyd,** both assistant freight traffic managers, have been given additional duties, without change in title, and **Frank W. Steel,** assistant general freight agent at San Francisco, has been promoted to assistant freight traffic manager, with the same headquarters. **Trusten P. Wadsworth,** assistant general freight agent at San Francisco, has been assigned additional duties, and **William A. Fauntleroy,** chief clerk in the traffic department, has been advanced to assistant general freight agent.

MECHANICAL

H. H. Jones, master mechanic on the Union Pacific at Los Angeles, Cal., has been transferred to Cheyenne, Wyo., succeeding **H. T. Snyder,** who has been transferred to Kansas City, Kan.

Harry P. Allstrand, assistant to the chief executive officer of the Chicago & North Western, has been appointed chief mechanical officer of that road, with headquarters as before at Chicago, succeeding **Edred B. Hall,** chief mechanical officer of both the North Western and the Chicago, St. Paul, Minneapolis & Omaha, who retired on December 1.

Mr. Allstrand was born at Council Bluffs, Iowa, on September 8, 1885, and graduated from Iowa State College in 1913. He entered railway service in 1903 as a machinist apprentice on the North Western at Missouri Valley, Iowa, and in 1907 he was promoted to machinist and later to foreman at that point. In 1909, he left railway service to attend college at Ames, Iowa, returning to the North Western after graduation in 1913, as a roundhouse foreman at Clinton, Iowa, later being transferred to South Pekin, Ill., Proviso, Ill., and East Clinton, Iowa. Mr. Allstrand was advanced to division foreman at Chad-

Harry P. Allstrand

ron, Neb., in 1918, and in 1919, he was promoted to assistant master mechanic at that point and later served as master mechanic at Chadron and at Eagle Grove, Iowa, Belle Plaine and Boone. In 1924, he was appointed efficiency supervisor, with headquarters at Chicago, and in 1926, he was advanced to assistant superintendent of motive power and machinery, with the same headquarters. Mr. Allstrand was promoted to principal assistant superintendent of motive power and machinery in 1929, and in August, 1939, he was advanced to assistant to the chief executive officer, the position he held until his recent promotion. Mr. Allstrand was president of the Western Railway Club in Chicago, in 1929-30. He is vice-chairman of the A. A. R. Mechanical Division committee on Locomotive Construction and has recently been elected to membership on the Executive committee of the A. S. M. E., Railroad division.

Mr. Hall was born at Parkersburg, Iowa on December 1, 1870, and entered railway

Edred B. Hall

service in July, 1889, as a shop and enginehouse mechanic on the North Western at Hawarden, Iowa. In 1892 he became a locomotive fireman and in 1898 he was promoted to locomotive engineman. On September 23, 1907, he was advanced to road foreman of engines at Sioux City, Iowa, and on March 1, 1910, he was promoted to master mechanic on the Northern Iowa and Sioux City division, with headquarters at Eagle Grove, Iowa. On May 1, 1912, he was transferred to the Wisconsin division, with headquarters at Chicago and in December, 1914, he was promoted to assistant to the general superintendent of motive power and machinery, with the same headquarters, handling labor matters. In 1917 Mr. Hall was appointed assistant superintendent of the Milwaukee division, with headquarters at Milwaukee, Wis., and in 1919 he was appointed assistant superintendent of motive power and machinery, with headquarters at Chicago. On May 1, 1922, he was advanced to superintendent of motive power and machinery, and in September, 1927, he was promoted to general superintendent of motive power and machinery. He was appointed also general superintendent of motive power and machinery of the Omaha in 1929 and in August, 1939, he was appointed chief mechanical officer of both roads, which position he held until his retirement. Mr. Hall was president of the Western Railway Club in 1921-1922, was chairman of the Mechanical division of the Association of American Railroads in 1934-1935, and was chairman of the General committee of the A. A. R., Mechanical division in 1932. Mr. Hall has been a member of the latter committee since 1932.

OBITUARY

B. C. Murphy, retired trainmaster on the Missouri Pacific at Little Rock, Ark., died on October 31 at Laredo, Tex., after a long illness.

Harry G. Fowler, who retired in 1934 as superintendent of transportation of the Eastern lines of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, died on November 30 at Irma, Wis.

William H. Kelly, assistant general passenger agent on the New York, Chicago & St. Louis (Nickel Plate) at Chicago, died at his home in that city on November 26.

A. R. Merrick, division superintendent of the Pere Marquette at Saginaw, Mich., from 1904 to 1920, and later chief of traffic and transportation for the Buick Motor Company, before engaging in private business enterprises, died at the age of 66 at Bad Axe, Mich., on October 14.

Capt. William C. Reid, solicitor for New Mexico for the Atchison, Topeka & Santa Fe, with headquarters at Albuquerque, N. M., died at that point on December 1, following a heart attack. Captain Reid was born in Etna Green, Ind., in 1868 and attended Purdue University. He was commissioned a captain during the Spanish-American war, in which he served with Company F of the First Territorial infantry. He moved to Roswell, N. M., resumed the practice of law, and was attorney general of New Mexico in 1906 and 1907. Later he became attorney for the Santa Fe and in 1915 he was appointed solicitor for that road.